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ART. I. *Palaces and Ruins, with some Remarks on the Ceilings, of the Middle Ages.* From an unpublished "Tour in Italy." By HENRY NOEL HUMPHREYS.

I CAN scarcely begin to note down my impressions respecting the dwellings of the Roman nobles, and the ruins from which their most precious materials were torn, without saying something of their inhabitants; but so much has already been said and written upon the society of Italy, and upon the manners, customs, and pursuits, as well as morals, of the Italians, from one end of the peninsula to the other, that I will abstain from adding to the mass, and thus avoid the disagreeable task of un-saying (not to use the harsher term, disproving) much that has been advanced upon that subject, and, frequently, by those who had the least opportunities of judging. Those who would know more of the matter, I refer to the graphic pages of Beckford, the lively descriptions of Lady Morgan, the entertaining diary of Matthews, &c. Avoiding this part of the subject, I may, however, still say something of the origin of the existing nobility of Rome, at the head of which, unquestionably, stands the house of Borghesi, of Genoese extraction; though, in point of mere wealth, perhaps the Piombini take the precedence, in whose present representative are centred the honours and estates of four great families; viz. the Ludovisi, the Buoncompagni, and the Ottoboni; besides which, the principality of Piombino, when sold to the Grand-Duke of Tuscany, produced the prince a sum in itself a treasury. Some others of the leading nobility are, the Princes Ruspoli, Rospigliosi, Barberini Braschi, Panfil-Doria, Altieri, Sciarra Colonna, Sforza Cesarini, and Massimi; the two latter of whom claim lineal descent from ancient Roman stock, and assert that the blood of the Cæsars still flows in their veins.

Many of the old historic names of the middle and lower ages, the Conti, the Orsini, the Lancelotti, the Frangipani, are still found among the Roman nobility, although the heads of many

of the greatest families, during the predominance of the imperial interest, settled in Germany, and their descendants are still to be found ranged among the harsher names of the Austrian aristocracy. But nearly all the nobles of Rome, who are *now* really great and wealthy, derived their importance from the popes who were fortunate enough to fill the papal chair in those palmy days of popery, the sixteenth and seventeenth centuries. The last of the popes who possessed much power was Pius VI., whom the French revolution surprised in the possession of the see of Rome. His subjection gave the final blow to the sinking splendour of the triple crown, since which the place has not been worth having; and the cardinals elect, not one of the aristocracy to make a fortune, but one whose origin places him under the control of the *sacro collegio*, and in whose name they can dispose of a cardinal's hat, or other patronage, among their own connexions and interests: such is said to be the case of the present Gregorio XIV.

In 1605, Borghesi, a Genoese, was elected pope, as Paul V.; during whose pontificate the estates of the Cenci family were confiscated under tragic circumstances, which are too well known to need repetition. Since that period, the Borghesi family has been considered one of the first in Rome; and few strangers are, perhaps, aware, whilst they take their evening drive through the enchanting groves of the beautiful Villa Borghese, that they are upon the patrimonial estate of the unfortunate Cenci, oft traversed by that loveliest of fiends, the fair Beatrice, whose charms still live in the soft touches of the pencil of Guido, and whose fearful history has been made familiar to our nation by the impassioned verses of Shelly.

The importance of the Barberini may date from the election of one of the family to the popedom, under the name of Urban VIII., in 1623; that of the Pamphili, from Innocent X., 1664; of the Rospigliosi, from Clement IX., 1667; of the Altieri, from Clement X., 1670; and, though this view of the origin of the Roman nobility may not be fully borne out in every case, yet it is fair as a general calculation of the origin of the power and preponderance of a majority of the present wealthy families of Central Italy, who have nearly all of them palazzi in Rome. Having ventured the above somewhat hasty and, perhaps, rash conclusions as the result of my own imperfect researches respecting the Roman nobility, I come to the subject of this memorandum, their habitations. It was the custom of a pope, as soon as he was elected, to commence a splendid palazzo, which became, as it were, the escutcheon of his family, and descended to his "nephew," who was, not unfrequently, a natural son. Thus the 300 churches of Rome are surpassed in number by her more than 300 palaces; for every

nipote del papa had his palace, while it was not every pope who built a church. Vasi enumerates sixty-five palaces, possessing considerable architectural beauty; and the student might select, perhaps, a dozen, which, as masses or in parts, are among the most perfect productions of the modern art in the palatial style.

These palaces form, in fact, from the era of Brunelleschi to that of Palladio, a perfect school of art, just now beginning to be appreciated, and which such works as Donaldson's *Doorways*, &c., are now making known, though too slowly, to the English student who has not the opportunities of travel. Solidity is the marking character of the architecture of these palazzi; a massive doorway (a carriage entrance) admits at once to the foot of the grand staircase, which rises from either side, and conducts to galleries which surround the court (of which the palace itself forms the four sides), and upon which open the entrances to the apartments. The front of the palace is always in a line with the street (the Farnesi being the only detached palace); from which circumstance the elevations, perhaps, lose much of the effect they would otherwise produce; and as, in the heyday of Roman palace-building, no accommodation for foot passengers was contemplated, the streets are narrowed by precisely the width which the trottoirs should have occupied. From this circumstance, the Corso (an avenue of palaces) appears narrow, and loses that spaciousness of effect which is all it wants to make it the finest street in the world.

An objection has often been made to the great doorways and open staircases of the palaces of Rome, on account of the filth which not unfrequently accumulates there; but this is not the fault of the architect, but of the slovenly noble, who keeps no porter, or *Swizzero*, at his gate, to protect his house from such pollutions. In Genoa, where a similar construction prevails, no such inconvenience is observed, as the great doors are either kept closed, or are protected by a porter; and such, indeed, is now the case with many of the best houses of Rome. Though it was a fashion for every pope to commence a palace with his papacy, yet, as the popes were generally old men when they were elected, they frequently died before the palaces, which were to serve, in some sort, as their monuments, were completed. When this was the case, the building was generally suffered to remain unfinished; and this was the fate of the celebrated Palazzo Farnesi, perhaps the finest in Rome, to erect which Cardinal Farnesi (Paul III.) effected the destruction of the Coliseum, from which he tore the materials for this most princely residence. In a similar manner perished many interesting remains which time and the Goths had spared; and from similar devastations arose, at a later period, the Palazzo Barberini, which gave rise to the pasquinade, "*Quid non fecerunt barbari, fecerunt*"

Barberini." There are still many prints existing of beautiful monuments of antiquity, the relics of ancient Rome, which had withstood the warfare and shock of ages, till within two or three centuries of our own times, and some that were nearly perfect only a century or two ago, of which now no vestige remains; and it is curious to reflect that, had our own venerable antiquarian, Stowe, visited Rome, even in his day, we might have known much of the architecture of the Romans, which is now buried for ever from both the antiquarian or the student.

If a cardinal or noble had any interest at court, he found no difficulty in obtaining permission to pull down an ancient temple, in order to use up the stones and precious marbles in the erection of, perhaps, a range of stabling: or, perhaps, the columns alone were wanted, for some more decorative purpose; in which case a splendid mass of architecture is as ruthlessly thrown down, in order to tear away its valuable supports. Previously to the light which broke upon literature, in the era of Leo X., this was still more common; and it may safely be calculated that every building in Rome, of any consequence, erected anterior to that date, is of classic stone. This, too, was the more unpardonable, as it might, at that time, have been easily effected without spoliation; for, when we consider that the ancient pavement of Rome still lies, in many parts, beneath 20 ft. of fallen ruins, it is clear that the abundance of building materials, at that period, must have been almost incredible; and the barbarous cupidity of the nobles, in pulling down the superb remains, yet erect, in all their majesty, before they had half-exhausted the mighty masses at their feet, admits of no excuse.

Some of the palaces built at the period which may be termed that of the resurrection of Roman art are extremely beautiful. It was an era when the mighty minds of Dante and Petrarch, and the gayer one of Boccaccio, that illustrious triumvirate of intellect, had given an impetus to the spirit of the time, which was felt like an electric shock through every channel of the arts; that Brunelleschi, following up and correcting the fanciful, yet elegant, genius of Giotto, and the bolder, though perhaps wilder, spirits of Arnolpho di Lepo and Orgagna, originated a style which, without retaining any of the principles of the Gothic (if the term may be so used), displayed much of the *feeling* of that era. Brunelleschi combined the purity and simplicity of classic architecture with the lightness of that which rose upon its ruins, and conceived his designs with a freshness and originality of feeling, which was the distinguishing characteristic of his age.

With Brunelleschi arose the elegant taste which has been since called the *cinquecento*, and which was carried to its greatest perfection by his immediate follower, Bramante; a style, or

rather manner, which, although depreciated by many able modern architects, as more the offspring of the sister art of painting, than of the sterner genius of architecture, must ever be admired for its graceful symmetry, the beauty of its delicate and inimitable arabesques, and its felicitous appropriateness to the higher classes of domestic architecture, and which appears to be eminently suited, in many respects, to the luxuries, or rather wants, of the present day.

There was in the classic architecture of Greece a coldness, which was its most striking attribute. Born in the East, and nourished to its perfect growth beneath the glowing sun of Greece, its deep porticoes and projecting cornices were contrived for shade, for protection from the heat, and to convey that effect of repose and coolness which is so delightful in a hot climate. The ancient Romans, with the literature, adopted the architecture, of Greece, but without adapting it to their cooler climate, as we may adopt many customs of the gayer French, through fashion, which are ill suited to the graver character of our nation; but, at the *renaissance* of the arts (we do not possess an equally happy term), Grecian was no longer fashionable in Rome: Greece was forgotten; and from the relics of ancient art existing in the imperial city itself arose a style eminently suited to the climate and the age. The architecture of the North, in contradistinction to that of the East, possessed a warmth of effect, and was contrived for shelter, for protection from cold, and to convey, in its rich and varied traceries, in its fretted recesses, and clustered columns, an effect of richness and comfort in keeping with the enjoyments of northern nations. It was a union of the effect of this style with the cooler beauties of that of classic art that produced the *cinquecento* at Rome, which combined the majestic beauties of the models still remaining in Rome, with the more compact and domestic tone of the Tedescan. In the more northern capital of Tuscany, the amalgamation partook, at first, more strongly of the Gothic; and when, a century later, the march of reviving art reached the fair plains of France, under the protecting guidance of Francis I., the climate and feelings suggested a still stronger admixture of the Gothic arrangement. When it stretched to England, again, half a century subsequent to its reaching France, the changes it produced were at first principally confined to ornament and detail: without changing the construction of our Gothic halls, we merely surmounted their clustering columns with a mongrel species of Corinthian capital, or effaced our crockets and tracery for a scroll of acanthus; producing the strange, but rich and not displeasing, mixture which antiquaries now admire as the Elizabethan, or British semi-Gothic.

The two palaces in Rome which best illustrate what I have

said of the elegant style originated by Brunelleschi, and carried out so successfully by Bramante, are those of the Cancelleria, and the palazzo on the Piazza Scopa Cavalli, near St. Peter's, now belonging to the rich banker Torlonia, both by Bramante; the latter having been built for Cardinal Adriano Corneto, and becoming afterwards the residence of the ambassadors of England. The first of these was, like so many others, built with travertine, torn from that mighty mass, the Coliseum, aided, likewise, by the demolition of a triumphal arch of Gordian. This style was, by the great painter Raphael, and the architects Maderno, San Gallo, and others, carried nearer to the classic model, at the expense, perhaps, of some of its delicate elegance. The path of Michael Angelo must be considered alone: without departing from the feelings excited by the impulse already given, his original genius brooked neither the restraint of the *cinquecentisti*, nor the severer rules of ancient art; but, in a bold and picturesque manner, he struck out of both, so that his works cannot be brought in as examples, in a chronological statement of the march of art, but rather form a brilliant episode, unconnected with the general thread. Perhaps the best examples of his style are, the Palazzo Farnesi, splendid, yet simple, with its magnificent cornice, which an eminent architect of the present day has designated as "a noble crown to a noble mass;" and the Campidoglio, the residence of the senator, or chief magistrate, of Rome, which occupies the site, and, indeed, rises upon the foundation, of the ancient Capitol. In speaking of this period of architectural art in Italy, the reflection (almost inconceivable in this age of railroads and rapid communication) occurs, that, whilst the almost classic pile of St. Peter's was majestically rising in Rome, we, of the northern isle, were still busy with the pointed windows and groined roofs of our cathedrals; that, while the workmen were chiseling the Grecian capitals of the gigantic columns of the Roman cathedral, we were just adding that morceau of petrified Brussels lace, Henry VII.'s chapel, to Westminster Abbey, with all its frettery, tracery, monkeys, dragons, owls, and non-descripts, the wild fancies of the legend-pregnant north, the land of witches, fairies, and hobgoblins.

In short, nearly two centuries elapsed from the revival of art in Italy, ere the shock, or rather influence, of it was felt in England.

To complete the slight sketch I was endeavouring to trace of the progress of Italian architecture, I may state that a richer, and perhaps overcharged, style prevailed, to some extent, immediately after the age of Michael Angelo, influenced or produced by the grand, though irregular, efforts of that colossus of the arts. The most beautiful specimen of the style I allude to is, perhaps, to be found in the Palazzo Madama, built by Cigoli, for Catherine de Medicis. This palace has a rich, and, at

the same time, noble and majestic, effect, and is the last which presents the peculiarities incidental to the revival of art. I may here remark that one of the great and striking peculiarities of this period was the facility with which each architect might be recognised by his manner of invention, and by the character of his finishing touches: every work was, as it were, an original picture, in which the peculiar hand of the architect was ever evident, thus proving that the art was not yet reduced to a matter of rule and compass, but was still under the dominion of the genius and fancy of the architect.

Another period succeeded: the works of Vitruvius were discovered; and the rules and measurements he laid down being within the most ordinary capacity, the inspirations of original genius gave way to servile copies of the ancients, and invention and fancy were alike discarded. Another and more conventional style now arose, in which all architects became more alike. Giacomo della Porta, Domenico Fontana, &c., and at their head Vignola, have left some of the finest specimens of this manner, which, founded entirely upon the principles of the ancients, with their bolder projections and massive columns, produced a more imposing effect for public buildings, but was, in my opinion, much inferior for domestic or palatial edifices. Rome, however, presents numerous and fine works, both public and private, in this taste, which was still more tamed down in ornament, and conventionalised, by Palladio, and prevailed till the Louis Quatorze style, rendered popular by the great talents of Le Brun, spread over Europe, corrupted the simplicity of ancient art, and finally led to that *mesquin* and meagre taste into which the arts fell, all over the Continent, towards the close of the eighteenth century. In Italy, however, their fall was not so profound; for Palladio in the north, and in Rome Bernini (that last of the race of those great sculptor-painter-architects who illustrated the history of art in Italy alone), have left such models of a pure, if not magnificent, style, as have afforded the last props to declining taste. It has often occurred to me, that at the revival of the arts, when the impulse was given by Brunelleschi, Bramante, and Michael Angelo, it would have been well could every remnant of ancient architectural art have been swept away. A new style was originated, which, left to itself, might have produced a sublime, and, at the same time, picturesque, architecture, of which we can now have no idea. At all events, we should have had no miniature caricatures stuck, by way of what is called a portico (a term often used in a wrong acceptation), at the entrance of the most inferior dwellings; and Grecian Doric, from "accurate measurement of the temples, taken on the spot," introduced in porters' lodges or dissenting chapels. If we must have copies, why cannot we choose as

models fine palazzi of Rome, which would surely be more appropriate to buildings of a private or domestic character, than a copy of a pagan temple, or even of a Christian cathedral. On the monumental style, I have ventured some few remarks, in my rambles among the churches of Rome.

In taking for models some of the early palaces of modern Rome, the beautiful *façades* of which are admirably suited to noblemen's residences, or to club houses, and other buildings of similar character, ministering to the luxury of the times, we might originate a school, which, followed out (not servilely, but imaginatively), might create for us a national architecture, and one that would be far better suited to the wants and tastes of the times, than anything either the Grecian or the Gothic style can supply. It would be a purer and more poetic admixture of ancient and modern art than the Elizabethan manner, or that of any other period or country in Europe. And, if any one should be so hypercritical, or fastidious, as to prefer against these models the crime of not being purely classical, I may reply that they are probably imitations of ancient art, of the kind which ought alone legitimately to be copied; namely, dwelling-houses: for even so recently as in the sixteenth century, there existed in Rome vestiges of the domestic architecture of the ancient Romans; and, among others, part of a small palace of Domitian, which remains, may, at all events, have suggested the style of the *cinquecentisti*; and, if so, it must surely be in better taste to design our domestic buildings from ancient remains of a similar character, than to reduce and caricature their temples, by attempting to adapt them to purposes for which they were never originally designed. I have made drawings of a few of the most interesting of these palazzi, which, with the assistance of some intelligent architect, I mean, when I have time, to print, in order (if I find that it has not been done) to afford to those who have not yet had opportunities of studying them on the native soil, the means of judging whether these specimens of art do not offer the means of striking out a style eminently suited to the feelings of the present age.

In speaking of the palaces of Rome, I have hitherto confined my remarks to those possessing architectural pretensions, or those remarkable for the barbarous spoliation which afforded the materials for their erection. I have mentioned none historically; for which omission, although my intended limits are nearly filled, I will endeavour to make some amends, by saying a few words about the Vatican, the *Palazzo Apostolico del Vaticano*; that spot on which long hung the destinies of Christendom, and whence those bulls, excommunications, or indulgences, issued, which once carried war, wretchedness, and vice over the fairest regions of Europe, to forward some paltry intrigue of popery, or to ce-

ment some family compact, or promote the private interest of a pope. But this is the dark side of the question : there have been few Borgias ; many good men have swayed with equal-handed justice the thunders of the church, and where is there great and irresponsible power which has not, at some period, been abused ? The Vatican was not the original habitation of the pope : the links of that papal chain, which once enfettered Europe, were riveted at the Lateran, the residence originally provided by the converted Constantine ; and it was not till after the temporary removal of the papal chair to Avignon, and the subsequent return of the popes to Rome, that the Vatican became their principal residence. Originally, there existed upon this spot only a few scattered buildings, the residences of the priests who officiated at the neighbouring Basilica of St. Peter's. There is a record, however, of some repairs done by San Simacco, to the "palace adjoining St. Peter's," as early as 499, scarcely more than a century and a half after the establishment of the religion by Constantine ; and Eugenius IV., in 1147, rebuilt it with sufficient splendour to serve as the residence of Peter II. of Arragon. Since that period it has been repaired and added to, by various hands, at various periods ; and the great court, which was the splendid work of Bramante, and sufficiently spacious to give a tournament in on the marriage of Count Attempo, *il nipote del papa*, has been divided into two. The principal part of the palace now visible from the Piazza di San Pietro forms three sides of a court, open on the side next the splendid piazza ; and four tiers of galleries, or open corridors, the second of which, having been decorated with beautiful arabesques and medallions of scriptural subjects by Raphael, bears the name of *la Loggia di Raffaello*, and is now enclosed with glass, to preserve as long as possible the too perishable works of that immortal artist.

I think I have already stated that the usual form of a Roman palace is a quadrangle, containing a spacious court in the centre, and surrounded by galleries similar to those I have just described, from which doors communicate to the apartments. The entrance from the street is by a carriage doorway, to enable company to be set down at the foot of the grand staircase, which ascends from the right and left to the first gallery, communicating with the *piano nobile*, or principal floor ; the ground floor never being used, except for inferior purposes. In the vast mass of the Vatican, however, this disposition was not always adhered to in the various additions which have, in the course of ages, added court to court, wing above wing, to the building, till it has nearly overtopped its neighbour, St. Peter's, and in some degree injured the symmetry of its effect. There are at present twenty courts, with their colonnades, eight grand, and two hun-

dred small, staircases, and apartments without number. Its actual dimensions exceed those of the Louvre and the Tuilleries united, although it covers less ground; and its entrance is by the splendid staircase of Bernini, which rises from beneath the grand colonnade of St. Peter's, where carriages set down to attend the papal levees, and the great *funzione* of the Sistine chapel, which is one of several contained within the precincts of the palace. Some of the apartments are very splendid and interesting, particularly those of Alexander Borgia, from the rare and peculiarly elegant taste of the ceilings, magnificently rich, and yet so simple. There are also the apartments of Giulio II., now called *le camere di Raffaello*, and the splendid library; and these, in conjunction with its matchless galleries of ancient art, its superb chapels, and its great adjunct, St. Peter's (combined with its position, affording a splendid panorama, as far as the hills of Tusculum, more teeming with glorious association than any other spot on the earth), place the Vatican, without doubt, at the head of European palaces.

The casual mention of the ceilings of the Borgia chambers has suggested to me another point of comparison between the palazzi of Rome and the town residences of the English nobility, much to the disadvantage of the latter. In the interior decorations of a Roman palace, the principal ceilings were ever the most prominent feature, and the first talent of the day was employed in their design and pictorial embellishment. Annibal Carracci was many years employed upon the ceilings of the Farnesi Palace; the celebrated Guido, at that of Ruspigliosi; Pietro da Cortona, at that of the Barberini; and Guercino produced the acknowledged *capo d'opera* of fresco painting (his *Aurora*) on a ceiling at the Ludovisi. In London, I think, there is in no private residence, at least with a few miserable exceptions, any painted, or even highly decorated, ceiling; yet nothing would add so much to our first-rate mansions as enriched ceilings. We make Gothic or *cinquecento* walls or windows with tolerable accuracy, but the crowning glory of the rich taste of the middle ages, the arched and richly emblazoned ceiling, is lost sight of, and every thing is thrown out of keeping, by a flat white expanse, terminating in a cornice, as near the style of the epoch as so stubborn an opponent as the flat white ceiling above it will allow. The expense of vaulting would not be so much greater; and, by sending some decorative painters to study the ceilings of the palaces of Rome, or those of Genoa and Venice (where there are a few splendid specimens of arabesque decoration in the older palazzi), this enrichment to the internal decoration of our domestic architecture, might be studied, and the taste, once started, our own invention and design might soon surpass our models; though this is saying much,

when we reflect that a Raphael, a Zuccherò, and a Michael Angelo have been employed upon them. The want of this desideratum is sadly apparent in the apartments of the new palace at Pimlico, where the ceilings are, for the most part, flat, the only ornament being a little "picking out" with gold; and this flatness prevents the rooms having that air of nobleness and grandeur which is apparent in most of the Italian palaces, even of private individuals.

A few good and accurate copies of arabesque, and otherwise highly enriched ceilings, would probably introduce a new branch of industry, in which many, unable to excel in the highest branches of art, might obtain a highly creditable and lucrative employment.

A period is fast approaching when neither printed papers for the walls, nor conventional composition ornaments for cornices and ceilings, will satisfy that craving for elegance and art which is beginning to distinguish this highly educated age, even among the middle ranks. A keener perception of the beautiful is abroad; and the superior skill displayed in the design and execution in the most ordinary articles of domestic use, has contributed to form that refined taste which, in an age teeming with talent, requires originality and excellence in design, as well as mere richness in execution, which is but a false, vulgar, and paltry substitute for true splendour. I prognosticate that, ere long, elegant arabesques of quaint and fanciful invention, the work of *artists*, will entirely supersede those unmeaning scrolls and flourishes of flock papers and composition ornaments, which may be now purchased by wholesale, and with which a whole row of genteel houses may be finished off to *match*!

The art of interior decoration was, doubtless, much better understood in Italy, in the middle ages, than it is now in any part of Europe, and it was most probably derived from the remains of the ancients. Raphael spent many solitary days in the buried halls of the Cæsars, on the Palatine Hill; and in those subterranean chambers, no doubt, imbibed much of that delicate taste so beautifully exemplified in his *loggia*; a supposition rendered more probable (though the classic models he may have studied have long since fallen into decay) by the discovery of Pompeii, which reveals again that style of Roman art; and in many of the superior houses of which the decoration might almost be taken for the elegant tracings of Raphael himself. The gorgeous remains of the palace of the Cæsars, indeed, most likely presented a richness of decoration much nearer to that displayed in the great age of modern Italian art, when the science of interior decoration was so well understood.

Many interesting habitations of the Roman nobility have not been alluded to in the above sketch, in consequence of my

having attempted their description in my circuit among the villas; to which appellation, either from locality or construction, most of the other Roman palazzi more properly belong.

ART. II. *Essay on the Rise and Progress of Architecture in England.*
By R. E. PHILIPS, Member of the Arch. Soc.

(*Read at the Monthly Meeting of the Architectural Society, June 13. 1837.*)

——— “ Art thrives most
Where Commerce has enrich'd the busy coast :
He catches all improvements in their flight,
Spreads foreign wonders in his country's sight,
Imports what others have invented well,
And stirs his own to match them, or excel.”

COWPER.

THERE is no subject, perhaps, more interesting than architecture. From the earliest ages of antiquity, when it first appeared, it has descended on the stream of time with various success, but with important results to human nature. Its effects upon the moral, intellectual, and general habits of mankind have been in proportion to its encouragement by the enlightened few who were capable of judging of its merits, until the people caught the flame of transport, and, warmed by the genius of the poet, acquired a taste which at once proclaimed their character, and stamped the age in which they lived with glory. It is to such keen sensibility in the public mind that we must look for lasting encouragement to the efforts of genius. The muse languishes in neglect when the public attention is so engrossed with puritanical zeal or political care, that it cannot afford a few moments from the toils of the world, to look within its own recesses. The great end of all the arts is, that of making an impression on the imagination and feeling: that the imitation of nature frequently does this, I believe will be readily admitted, but that it also fails, on some occasions, I conceive will be also conceded. The true test of the arts, therefore, does not rest solely upon the production of a true copy of nature, but whether it answers the end of art, which is to produce a pleasing effect upon the mind.

Architecture does not rank itself under the banners of an imitative art, but, like music and poetry, appeals directly to the imagination; there is in architecture an inferior branch of art, in which the imagination has no concern; it does not lay claim to its appellation as a polite and liberal art from its usefulness, or as an accessory to our wants and necessities, but from higher and loftier principles: we are convinced that, in the hands of a man of genius, it is capable of inspiring sentiments, and of filling the mind with great and sublime ideas.

The influence of the fine arts upon the intellectual and moral character of a people, their utility and their value, as conferring upon a state in which they are justly appreciated the highest proof of civilisation, are considerations which cannot be too much entertained; but persons are too apt to regard the art of design as a mere elegance, as the insignia of wealth, rather than the production of wisdom, and as more the effect of pleasure than utility.

Architecture is the union of all the fine arts: it imparts life and energy to them all. The bold modelling of sculpture, the grace and colouring of painting, put on all their charms, with the advantage of a moving variety, in connexion with one subject: in its developement of character it also displays the utility of the fine arts, and the harmonious blending of the whole, with a

view to some definite result, instructs the world; the heart is softened and the understanding improved. Hence the utility of architecture, sculpture, and painting, to civilise society; their influence in improving the social condition of our species will never be questioned by those who are possessed of refinement; and even such persons as are insensible of their advantages are hourly experiencing their good effects, in their association with more susceptible minds. Architecture comes in aid of history, and in it the illusions of fancy are blended with truth; it proclaims the genius of the man, but it leaves the meagre outline to the historian; and, by making the spectator sensible of the source of knowledge, invites him to future study and contemplation: nothing is calculated to afford more solid instruction than architecture.

That there exists considerable apathy on this subject in many quarters, I think will not be denied. The mind which can behold a well-wrought work with unconcern must be devoid of taste and sensibility, unworthy of an enlightened age; but I trust, if we cannot awaken their taste, we may at least rouse them to the consideration of the utility of architecture: encouragement lights the lamp of genius to shine in modest security to after ages, or creates a prodigious glare, to live but a short time.

The sternness and inflexibility of character which once belonged to this nation are gone: we blend the riches of Tyre and Carthage with those of Athens and Rome; we profess to have received lights which were hidden from those nations; we compete with all Europe, in every acquirement worthy of an enlightened nation; but coldness and jealousy have for too long a time cast their mantle over the efforts of genius, and left the aspirants for fame in architecture to feed themselves on their own zeal, or to perish for want of the necessary stimulus to exertion. The patronage which was once afforded has long since ceased; architecture, like much else, has been monopolised by adventurers, incompetent to judge of its excellence, and much has been rejected which would have met with success, had it been exposed to the test of public opinion, and not depended, as it has hitherto too often done, on the private feelings or caprice of those who have catered for the public taste.

Is it necessary, for the proof of our present position, that we should waft our way through bygone ages, when the great nations of the earth were wont to think that there was no more imposing or enduring method of transmitting their records to posterity than by writing their histories in stone? and need we visit the temples of Balbec or Tadmor in the Desert, or those mighty and gigantic forms of the glory and superstition of the dark people of the Nile, which neither destruction nor the iron hand of Time has been sufficiently powerful to efface? need we ascend the Ganges, and, in our approach to the Holy City, behold those lofty minarets towering above the dense mass of structures on the curved margin of the stream, the heart glowing as the gorgeous panorama discloses its temples, its towers, its long pillared arcades, and balustraded terrace, peeping through the interstices of some highly sculptured building? or need we drink of the waters of the Ilissus, and, in romantic visions, contemplate the clime of Agamemnon, when Sophocles wrote, when Phidias designed, when Pericles governed, the organ through whom the pervading enlightenment of his nation was expanded in all its glory to the world? need we explore the Tiber, and visit that gifted country, the chosen land from which the light of modern civilisation proceeded, and, under her bright sunny skies, behold her gorgeous palaces, her magnificent ruins, her relics of departed greatness, treading the now desolate Forum? No; should we not rather direct our course on homeward shores, and behold the Thames, "the most loved of all ocean's sons," and on its borders contemplate the magnificence of a capital, the simplicity of a hamlet, the abode of royalty, the cabin of the peasant, the ruined remains of the baronial hall, the dark shady forest, the classic ground of Oxford, "Eton, famed for tutored lore," the proud forest of lofty masts, the flags of every nation fluttering in the breeze, the huge and stately messenger of England's tremendous thunders, until, swelling into a

vast expanse, the waters lose their designation in the conflux ; beholding, in the gliding course, Netley's favoured spot, the ivied ruins, the clustered columns, the once inhabited cloisters ; or even extend your varied course, and on that far-flamed river, the Wye's undulating shores, behold the ruins of Tintern : entering the same, let the most stoical mind deny its admiration, or the most tasteless observer his attention, as the eye ranges rapidly along those elegant columns, with their aspiring arches, and, stretching under their sublimity, gain in beauteous perspective the grandeur of the eastern window, to which decorations of art are now added those of time, portions obscured by the growing ivy, others canopied by the spreading shrub ; while the tendrils twine in the tracery of its once radiant lights. Far too numerous are the specimens of these great and sublime erections for me to enter into any detail : but let us ponder for some short moments on their peculiarity.

To the ordinary reader or amateur, great perplexity and uncertainty must occur, on hearing or reading the different terms, ancient architecture, Saxon architecture, Norman architecture, and English architecture : to make these intelligible, to treat them in the historical manner, perhaps, would be the more distinct.

The heavy circular manner of building which prevailed throughout Christendom, from the fall of the Roman empire to the twelfth century, was the Roman or Grecian style incorrectly or rudely executed. Amongst us it is called the Saxon style, because it prevailed during the Saxon period.

On the first introduction of Christianity amongst our Saxon ancestors, at the conclusion of the sixth century, they consecrated many of the pagan temples to the Christian worship, according to the instructions they received from other quarters ; and they erected temporary oratories of wood, as we learn from Bede and others.

Very soon, however, the Roman missionaries, who converted them, instructed them in the construction of churches, after their own mode. At the beginning of the seventh century, Paulinus, the first archbishop of the Northumbrians, appears to have been the chief architect ; at which period he built churches at York, Lincoln, and other places. His successor but one was Wilford, an Englishman, who greatly surpassed his master, as the churches he built at Ripon and Hexham were considered to be very fine erections ; but it appears that these architects visited Rome, and even brought with them, on their return, workmen to execute the works then progressing in England ; therefore, it is considered that the Saxon style was not of our invention, but brought from Italy during this century. During the ninth and tenth centuries, England was much harassed by invasions : the invaders, called Danes or Normans, were guilty of great devastation on the existing religious monuments : on the delivery of this nation, and that of France, from this scourge, and a state of tranquillity and lasting peace ensuing, it enabled the nobles and affluent to rebuild their demolished edifices, and build others, surpassing their former structures.

William the Conqueror, during his short reign in Normandy, and previously to his invasion of England, built two churches and abbeys ; and the nobles vied with each other as to the magnificence of their erections. Such were the Normans, a most industrious and religious people, but in a particular manner admirers of ecclesiastical architecture ; such were the people who arrived, in the eleventh century, in this country ; and, at this time, the most celebrated schools of literature and of the arts, therefore of architecture, were the abbeys of Bec and Caen, the former of which places produced those three great architects, Lanfranc and Anselm, archbishops of Canterbury, and Gundulph, bishop of Rochester. These prelates, as well as the majority of those abbots who arrived, were able architects ; and it appears their sole aim and endeavour, in the erection of their various structures, of which there were a great many, were, evidently, to produce the sublime and beautiful. For the former purpose, their churches were long and lofty, and for the latter neat,

appropriate, and perfect ideas, with the assistance of ornaments of new invention. In their endeavour to effect the objects in view, to make their religious erections the most sublime and beautiful, their ingenuity and improvements became apparent; and, consequently, a new style produced, called the pointed style, the invention of which this country certainly lays claim to. The idea of the pointed style having originated with the Saracens was contended for by Sir C. Wren, and is so by many modern writers. But why should we wander to the most remote corner of the world, and, perhaps, into the regions of fancy, in search of an invention to which our own clime lays claim? and why should we take such pains to prove a plant to be an imported exotic, when we may find it in every stage of its growth flourishing vigorously in our own soil?

We have seen above, without dispute, the Normans of the eleventh and twelfth centuries were a most industrious and ingenious people, possessing the most ardent passion for ecclesiastical architecture, vying each other as to the grandeur and beauty of their structures. In addition to the effect of grandeur which they gave to their churches by their length and height and beauty, by the diversity of ornaments, they added arches or arcades, a series of small round arches, as we observe in St. Botolph's Priory, and in the basement of Durham Cathedral; diversifying these in various ways, as may be seen at St. Augustine's Priory, Canterbury. These plain and intersecting arches were sometimes irregularly intermixed; the pointed arches thus formed being, at first, only in basso relievo; but it was soon, likewise, in alto relievo, as in the remains of Archbishop Lanfranc's work, at Canterbury Cathedral, and elsewhere. Some of the first, if not quite, of the open arches in the pointed style now existing are those of the Church of St. Cross, near Winchester, made by that great encourager of the arts and architecture, Bishop Henry de Blois, King Stephen's brother, 1132.

It would be rash to pronounce Bishop de Blois as the author of the pointed style of architecture, since we have evidence of other churches being built, about this period, in the same mixed style of pointed and circular work; it is however, to be observed, that, before the close of the twelfth century, the circular style was entirely laid aside.

In all the works executed during the middle and latter part of the twelfth century, a confused mixture of style is every where discernible, as might be expected, one fashion beginning to be left off, and another introduced. In a general way, the arches were altered previously to the columns; hence it is nothing uncommon to find arches of the sharpest points resting on Saxon pillars of the greatest circumference. It did not, however, long escape the indefatigable observation of our architects, that such heavy supporters ill accorded with the lightness of the aspiring arch. We have a striking and most interesting example of this, and other improvements, which took place in this style, in the eastward portion of Canterbury Cathedral; and those who cannot see the original, may satisfy themselves by having recourse to Carter's work on *The Ancient Architecture of England*.

As we have the advantage of circumstantial accounts of this building and of the difference between it and the former structure, erected a hundred years before, which account is drawn up by the intelligent monk Gervase of Canterbury, I may be excused for dwelling shortly upon the subject. He tells us that the pillars of the new choir were of the same form or thickness as those of the old, but were 12 ft. longer; that the former capitals were plain, while the latter were delicately carved; that there were none of marble in Lanfranc's work, but that they were numerous in the works of the two Williams, that the vaulting of the aisles of the choir was plain, whereas that of the new choir was groined. The former choir had a flat ceiling, ornamentally painted; that of the succeeding, elegantly vaulted, with hard stone for its ribs, and light stone for interstices.

The improved architecture of this, the most distinguished church in the isle, could not fail of working the adoption of the style when occasion offered

for rebuilding or repairing them. Lincoln Cathedral appears to have been amongst the first under the renowned skill and piety of its bishop, St. Hugh, 1195, except the west front, which is almost all the work of the Norman prelate Remigius; and the towers, the groining, the screens, and other decorations added in the fourteenth century. The vast pile of St. Mary's Church and Chapter-House at Lincoln is in the simple style of the first or lancet. Awful and beautiful, beyond the conception of those who have not witnessed the scene, is this.

In 1202, Bishop Godfrey de Lucy, amongst his great works, began to rebuild the eastern part of the Cathedral at Winchester, without the least mixture of Saxon. In 1227, Archbishop Walter de Grey began to rebuild that of York, in the prevailing style; the same was at this time being effected at Worcester, Salisbury, and other cathedrals and abbey churches. In the reign of Henry's son, Edward I. (1272), the architecture of this country, through the ingenuity, industry, and talent of its professors acquired a new character; the first and distinguishing feature being the general adoption of the well-proportioned and aspiring arch. The arches of the latter end of the thirteenth century generally approached the perfect proportion; besides this, they were ornamented with trefoils, cinquefoils, &c. In like manner the canopies over the arches were adorned with foliage, from the corbel on which they rested, up to the rich flower or elaborate finial in which they terminated. Pinnacles, hitherto rare, were now placed at the side of almost every arch, and on the top of every buttress, surmounted with rich finials. A pinnacle of proper size being placed on a tower, instead of a buttress, became a spire; hence the introduction almost generally in the fourteenth century. We have instances of these improvements, or, rather, the new pointed style, in the three remaining architectural crosses of Edward I., Northampton, Grodington, and Waltham, to the memory of Queen Eleanor.

But the most complete specimen of the whole detail of these improvements is York Minster, the nave of which, as it stands, was built between the years 1290 and 1330. Who is there that can approach its environs, beholding its towers preeminent, its numerous crocketed pinnacles, displaying at once intricacy, variety, and picturesque beauty, towering, like a noble forest tree, amidst a shrubbery from every avenue, or like a mountain starting from its plain, thus attracting the attention and admiration of a spectator; whilst its own vastness and beauty inspire its beholder with awe and sublimity: if any similar structure, but upon a smaller scale, could, in its time, have vied with this in beauty and grandeur, it was St. Stephen's Chapel, which Edward the Third began in 1348.

There are few, if any, of our cathedrals, or remaining abbey churches, which were not rebuilt or restored in some considerable part in this improved style; the taste for these improvements descending even to the parish churches. The human art, like the human body, when it has attained the perfection of its state, tends to decline. So with the rise, progress, and decline of pointed architecture, occupying little more than four centuries: as its perfection consisted in the due elevation of the arch, so its depression commenced its decline.

The new style took place in the fifteenth century, and exhibits its examples in the royal chapels: St. George's, Windsor; King's College, Cambridge; and Henry the Seventh's, Westminster. It cannot be denied, that the architects of these splendid and justly admired structures displayed more art and more professional science than even their predecessors; but at the expense of the style itself which they cultivated, and of the awful and devout impressions which this style was intended to excite. Hence, ingenuity was at this period much more courted than the beautiful and sublime; hence those royal chapels, those mortuary ones of Winchester, Peterborough, and others during the time of the two last Henrys, are ever covered with tracery loaded in their groins, figures, armorial bearings, beyond all due proportions; so that, however elegant the design and exquisite the execution, a judicious spectator, after admiring them, fails not to prefer to them the chaste grandeur of York

Minster, or even the unadorned majesty of Salisbury Cathedral; and, on crossing the threshold of their portals, enters with mingled emotions of religious awe and devotion, pondering in silent admiration, until his vacant gaze, hitherto flashing from spot to spot, alights, perhaps, on the humble trefoil.

To the Gothic architects, we can refer with satisfaction, as combining every essential for the due advancement of their art: in them was united the man of practice and the man of theory; we beheld in their works a lightness, an art, boldness of execution, which clearly proves that neither the singly practical, or theoretical, architect will ever exhibit to the mind a pleasing object for its contemplation, unless the union of the two becomes apparent to the imagination by the working of its effects.

England, perhaps, exhibits more examples than any other nation of these qualifications, equally admirable for the art with which they are executed, and the taste and ingenuity with which they are composed. I cannot here refrain from expressing a feeling of regret, that these structures are not more considered, better understood, and held in higher estimation, and more encouragement given to our antiquarians in that particular branch to undertake a correct publication of our ecclesiastical and domestic architecture, before ruin spreads its extending mantle, and preserve to future times the remembrance of an extraordinary style, now fast sinking into oblivion; at the same time publishing to the world the riches of a great nation in the splendour of her ancient structures, and render a real service to the art of design.

The importance of architecture, as one of the fine arts, is, indeed, a question which must draw an affirmative response from the generous hearts of all classes, ere a nation may wear that high intellectual honour which the production of masterpieces has ever conferred. Of the esteem in which both the arts and artists were held by Greece, and subsequently by the more polished state of Europe, we cannot be too mindful: both Greece and Rome had the same object in view.

It will be conceded as an undeniable fact, that Greece was in every essential virtue superior to Rome. Whether the cultivation of the arts by the former was rather among the consequences or causes of her political or moral state, is an interesting subject of enquiry. It is not the lore of isolated individuals that can induce the arts to smile upon a country; the exertions of talented professors, who breathe not the atmosphere of general appreciation, will never confer the renown upon their nation; reciprocal honours must first pass between that nation and themselves. It is not enough for a Wren or a Jones to exhibit their transcending capabilities, while the apathy of the public suffers the one to die in poverty, the other in wretchedness, and yet presumes to claim the honour of the production of such men, —

“With fulsome epitaph insult his grave,
And eulogise the man we could not save.”

Of the public encouragement of architecture, it is to be lamented very feeble hopes can yet be entertained, as, notwithstanding the general opulence of the nation, where thousands and tens of thousands are daily squandered away with senseless prodigality, yet, with respect to the fine arts, the public liberality has yet been seen only to extend to a mere exhibition, a foundation certainly too weak to sustain any edifice creditable to the national taste or genius. Can we hope for better times, or anticipate a new era in our ecclesiastical architecture? The appeal in its behalf has been responded to by a generous public of an opulent nation in a way gratifying to the most sanguine: but does it augur that those who cater for the public taste will evince that knowledge of its art, or cause its hitherto blemishes to be buried in oblivion, and adorn this vast metropolis and its spreading environs with works worthy of its greatness?

That the professors of this truly interesting art have hitherto evinced some little apathy in its developement, must be acknowledged, and that the public were without a means to learn its beauties and gain its acquisitions, will not

be denied; but pleasing indeed must be the reflection, to the minds of those who first cast away the lethargy of its members, and founded a society for its diffusion amongst the many,—proud indeed must be their thoughts, as they ponder on its present station amongst the learned and scientific institutions of this important state; and still greater must, indeed, be their emotions when reflecting that it was their endeavours, their exertions, that roused the hoary heads of the profession from their inconceivable coolness, and caused them to strain every nerve, and to stretch every sinew, in the formation of an institution for the advancement of an art hitherto left in the hands of the enlightened few.

London, 17. New Milman Street, July, 1837.

ART. III. *On Cemeteries.* By J. A. PICTON, Architect.

“Man is a noble animal, splendid in ashes and pompous in the grave; solemnising nativities and deaths with equal lustre, nor omitting ceremonies of bravery in the infamy of his nature.”—SIR THOMAS BROWN.

THE public attention has been aroused to some extent, within the last few years, on the subject of the burial of the dead, and certainly not without cause. The evils of the present system of interment in large towns have been repeatedly pointed out, and considerable improvements have taken place; and, perhaps, considering the prejudices which have had to be surmounted, the obstacles thrown in the way by interested parties, and the difficulties of various kinds which have presented themselves, as much may have been accomplished as could reasonably have been expected. Although much remains to be done before anything like perfection can be said to be attained, yet, the tide of public opinion having taken a favourable turn, the guiding and directing hand of taste is alone wanting to change what has hitherto been the disgrace and deformity of our cities, into one of their principal beauties and attractions. To lend a helping hand in the furtherance of a consummation so devoutly to be wished for, and to give a few practical hints on the subject, is the object of the present article.

Various modes have prevailed, in the different ages and countries of the world, as to the disposal of the mortal remains of deceased humanity, according to the different ideas entertained of the relation between the soul and body, and the peculiar notions of a future state of existence. With the exception, however, of the Persian fire-worshippers, their descendants the Parsees of India, and the ancient Egyptians, nearly all nations, of which any historical records remain, have adopted either the plan of simple inhumation or burning. It is true we have accounts of other modes having been practised both in ancient and modern times, such as that of the Ichthyophagi, or fish-eating nations of North Africa, who committed their dead bodies to the sea; and of the

Balearians, who, according to Diodorus, pounded the flesh and bones of their deceased friends, and in this state deposited them in urns; but many of these statements are probably exaggerated, and, if true, the practices alluded to perhaps never prevailed to any great extent.

The earliest method of interment was, undoubtedly, that of burying in the ground. The sentence pronounced on our first parents, "Dust thou art, and unto dust thou shalt return," seems to have been adopted literally by the patriarchs. In the 23d chapter of the Book of Genesis we have a very touching and graphic account of the interment of Sarah, the wife of Abraham, from which we learn that a cave or vault was selected for the purpose in a field surrounded with trees, and that it was situated outside of the city of Hebron or Mamre. Even in this early age, peculiar sanctity seems to have attached to the common burial-place of a family or tribe; for we find the patriarch Jacob, on his death-bed, giving to his sons a strict charge, that "he should be gathered to his people; that he should be buried with his fathers, in the cave of the field of Machpelah, before Mamre," above alluded to. Joseph also took an oath of the children of Israel, that "they should carry up his bones" into the land of Canaan. It is not quite clear whether or not the Jews ever adopted the custom of burning their dead. The men of Jabesh Gilead burned the body of Saul (2 Samuel, xxxi. 12.); but it appears rather to have been done for the purpose of preventing the threatened indignities upon his remains, than from a religious motive, for it was effected in secret, and by night. We are also told of Asa, King of Judah, that "they made a very great burning for him;" but it is evident that his body was not consumed, for it is expressly stated that it was embalmed and buried in the city of David.*

Amongst the Greeks, the custom of burning the dead was nearly, if not quite, universal. The ashes were collected with pious care into an urn, which was deposited in a tomb, sometimes a family vault, with a monument erected over it to the memory of the deceased. Every classical reader will remember the description of the funeral pile of Patroclus, in the 23d book of the *Iliad*:—

—"Those deputed to inter the slain
Heap with a rising pyramid the plain.
A hundred feet in length, a hundred wide,
The growing structure spreads on every side.
High on the top the manly corse they lay,
And well-fed sheep and sable oxen slay.
Achilles cover'd with their fat the dead,
And the piled victims round the body spread."

* The curious reader may find other allusions to the same subject in 2 Chron. xxi. 19.; Amos, vi. 10., ii. 1.; 2 Kings, xxiii. 16.

According to the poet, the ashes were placed in a golden vase, with a mound of earth, or barrow, heaped over it for a memorial.

In the earliest ages of Rome, simple interment was the prevalent mode; the practice of burning was introduced probably from Greece. For some time either mode was adopted indifferently; but, at length, incremation became the universal practice, and was only discontinued with the spread of Christianity. But, whichever mode was the one in use, we find it a custom of all but universal adoption that the dead bodies or ashes were interred outside the city walls, and generally near the highways, where their monuments naturally fell under the observation of travellers. Hence the inscription, "*Siste, Viator*," so absurdly retained almost to the present day. The laws of the Twelve Tables strictly prohibited any human body being either burned or buried within the city. This law was sometimes violated; but the instances are extremely rare, and generally occurred in the case of persons of great popularity and celebrity. No religion of ancient times, either Jewish or pagan, sanctioned the modern usage of interment in or near the temples and places of worship: indeed, the presence of a dead body was considered as pollution within the sacred precincts. This is probably the cause, also, of the prohibition to inter within the city walls, though it has generally been attributed to a very different cause, the care for the health of the inhabitants; but many of the other customs of antiquity preclude the supposition that the public health was ever attended to on such philosophic principles.

As Christianity made progress in the Roman empire, the custom of burning the dead gradually fell into disuse, whilst the plan of interment in or near the churches by slow degrees gained ground. One reason for this may be found in the far nobler and more elevating views of a future state developed by the Christian religion, particularly in the doctrine of the final resurrection. Whilst the superstitions of the people, and the doctrines of the philosophers of Greece and Rome, equally held that death, as far as the body was concerned, was its final destruction, the Christians considered the interment of the body as a mere temporary commingling with its kindred dust, until that period to which they looked forward with joyful anticipation as near at hand, when "the trumpet shall sound, and the dead shall be raised incorruptible." Other causes also conspired to produce the change. The deaths of the early saints and martyrs were closely identified with the religion and doctrines for which they suffered.

Their bodies were, therefore, either interred, in the first instance, in the places they had honoured during life, that the sur-

vivors might have their example constantly recalled to their memory; or, after the establishment of Christianity, sumptuous buildings were erected over their remains, which were considered as communicating a peculiar sanctity to the surrounding neighbourhood. By degrees the clergy, then the kings and nobles, began to claim the privilege of depositing their bones under the protection of the sainted relics. In the first instance, however, the ground around the sacred building was considered sufficient. The Emperor Constantine was interred in the church porch; and it was not until several centuries after the first commencement of the practice, that dead bodies, except those of reputed saints, were allowed interment within the walls.

Thus, then, the present mode of interment derived its origin: how it has gradually degenerated into the abuses so prevalent in our large towns at the present day, it is unnecessary to discuss. We pride ourselves on our civilisation and refinement, on our feeling for the pathetic and tender, our taste for the beautiful and sublime; and yet we give a deliberate sanction to a system which outrages every feeling of decency, which rudely tears away those chords which thrill with a pensive and melancholy pleasure in association with the memory of a departed friend. The Indian warrior holds sacred the tombs of his forefathers; he can thread his way through pathless woods and trackless wilds to pay an annual visit to commune with the spirits of the departed, and to deck their graves with flowers; but, in England, the centre of civilisation, it is given in evidence before a committee of the House of Commons, that many tons of human bones have been annually exported from London, to be crushed in mills, and used as manure; that, in many instances, one corpse has to be taken up to make room for another. Well and truly has it been said: "It seems as if poetical custom always shuns the walks of cultivated society. In proportion as people grow polite, they cease to be poetical." Better, far better, would it be to revert to the ancient custom of incineration, than to continue the present loathsome practices; for, in the nervous language of the writer quoted at the head of this article, "To be knaved out of our graves, to have our skulls made drinking bowls, and our bones turned into pipes, to delight and sport our enemies, are tragical abominations escaped in burning burials."

But we rejoice at length to see the dawn of a better system. In Liverpool, Manchester, Birmingham, and most of our large towns, cemeteries of a superior character have been opened, with eminent success; and even in London, where, perhaps, greater obstacles exist than elsewhere, owing to the difficulty of obtaining land within a reasonable distance, something has been effected, and more is in progress.

Whatever may be our views of death and a future state in the abstract, our feelings and sensations on the subject are influenced to a very considerable extent by association. Hitherto, with very few exceptions, these associations have been of the most gloomy and terrific description : —

— “ The Grave! dread thing,
Men shiver when thou 'rt named : Nature, appall'd,
Shakes off her wonted firmness. Ah ! how dark
The long extended realms and rueful wastes,
Where nought but silence reigns, and night, dark night !
The sickly taper,
By glimmering through thy low-brow'd mirky vaults,
Furr'd round with misty damps and ropy slime,
Lets fall a supernumerary horror,
And only serves to make thy night more irksome.”

But, to use the words of an elegant modern writer (Washington Irving), “ Why should we thus seek to clothe death with unnecessary terrors, and to spread horrors around the tomb of those we love ? The grave should be surrounded by every thing that might inspire tenderness and veneration for the dead, or that might win the living to virtue. It is the place, not of disgust and dismay, but of sorrow and meditation.”

Let us be careful, however, in our anxiety to escape from gloom and horror, not to run into the opposite extreme of meretricious gaudiness. Death and the grave are solemn and awful realities ; they speak with a powerful and intelligible voice to the heart of every spectator, as being the common lot of all, the gate of access to another state of existence through which all must pass. To say nothing of the bad taste, therefore, anything obtrusively picturesque, anything savouring of fashionable prettiness, any far-fetched conceits or tortured allegories, jar upon the feelings of any well-regulated mind, and excite ideas the very opposite to those of sympathy and tenderness. Our cemeteries, then, should bear a solemn and soothing character, equally remote from fanatical gloom and conceited affectation. There are many of our country churchyards, which might furnish models in this respect, as far as calm serenity and quiet beauty go ; where the “ rugged elms” and “ yew tree's shade,” coupled with the “ ivy-mantled tower,” with which they are connected, give an air of time-honoured sanctity to the scene : but this is generally owing to adventitious circumstances, and accidental locality. I have at this moment one or two churchyards of this character before my mind's eye, seated deep in the recesses of venerable woods, by which they are surrounded and shut out, as it were, from the every-day world, where no sound reaches the ear, but the low murmur of the wind through the summer leaves, or the sighing of the storm through the

wintry branches, realising, if any situation could do so, the description of the poet:—

“ There is a calm for those that weep,
A rest for weary pilgrims found :
They softly lie and sweetly sleep
Low in the ground.”

Advantages of this description are not often to be commanded in the neighbourhood of large towns; but, even here, a little care and attention, by eagerly seizing and turning to account any advantage which presents itself, may give a pleasing tone to a surface of the commonest description, and stamp a character of chaste elegance on the most suburban situation.

In selecting a piece of ground for a cemetery, the nature of the soil, and the aspect, should first be considered. A firm sand, or loose light rock, is the best adapted for the purpose; a gravelly soil, or any other stratum permeable to water, will answer tolerably well; but a stiff loam, or tenacious clay, is of all soils to be avoided, as it is hardly possible effectually to drain it, and the presence of water is for many reasons objectionable. If the surface of the ground should have a slope to the south or south-west, so much the better, as it will tend to improve the cheerfulness of the aspect, and the dryness of the surface. Unless the ground be very extensive, it is desirable that the slope should be from the entrance, as the interments generally commence at the farthest end, and sometimes inconvenience is sustained by walking down the hill. St. James's Cemetery, Liverpool, in the centre of which Mr. Huskisson lies interred, was constructed on the site of an old stone quarry. On a projecting fragment of the rock, hewn perpendicularly on two sides, stands the chapel; whilst a tunnel, excavated in the rock, affords access to the burial-ground below. In various places, where the face of the rock is scarped down perpendicularly, catacombs are excavated. In others, where the nature of the ground admitted it, the surface has been covered with soil, where a flourishing plantation of trees has already attained considerable luxuriance. In this way, by taking advantage of local circumstances, almost any piece of ground, however unpromising, may be rendered at least pleasing, if not tasteful and elegant.

The style of the buildings, enclosures, entrance-gates, &c., should bear some analogy or reference to the objects and purposes of the structure, or, at all events, the ideas excited should not be adverse to them. The Egyptian style, from its massive breadth and colossal proportions, has sometimes been adopted for mausoleums, and, I believe, occasionally for buildings connected with enclosed cemeteries, probably on account of the ideas of duration and strength which naturally connect themselves with the Egyptian remains. Most of the cemeteries,

however, which have recently been constructed have their attached buildings in the classical style. As to the intrinsic beauty of Grecian architecture, there can be but one opinion, neither is it probable that the great mass of mankind attach to it any definite ideas as to its origin; still, as the beauty of all architectural forms is to a great degree conventional, the appreciation of their excellence must depend on the previous cultivation of the taste, and the direction and bias which it has received. Every mind of common cultivation, when certain analogies or discrepancies are pointed out, can immediately appreciate them, and derive pleasure, or the reverse, from their perception. Now, there is no analogy between the classical style of architecture, and the objects of a Christian burial-place. As a mere matter of convenience, and as presenting pleasing forms to the eye, it gives satisfaction to the great majority, who look not below the surface. But, if consistency and keeping are desirable, if a picture complete in all its parts be wished for, something further is required. It is this mutual support and pleasure which the perceptive faculties, the imagination and the judgment, mutually afford, which constitute what may be termed the poetry of the art, the highest degree of pleasure from that source of which the human mind is capable. There are some excellent observations, so applicable to the present subject, in an article from the *North American Review*, inserted in the January Number of this Magazine, that I cannot forbear quoting them:—"There is certainly no place, not even the church itself, where it is more desirable that our religion should be present to the mind, than the cemetery; which must be regarded either as the end of all things, the last, melancholy, hopeless resort of perishing humanity, the sad and fearful portion of man, which is to involve body and soul alike in endless night; or, on the other hand, as the gateway to a glorious immortality, the passage to a brighter world, whose splendours beam even upon the dark chambers of the tomb. It is from the very brink of the grave, where rest in eternal sleep the mortal remains of those whom we have best loved, that Christianity speaks to us in its most triumphant soul-exalting words of victory over death, and of a life to come. Surely, then, all that man places over the tomb should, in a measure, speak the same language. The monuments of the burial-ground should remind us that this is not our final abode; they should, as far as possible, recall to us the consolations and promises of our religion.

"But there is a style of architecture which belongs peculiarly to Christianity, and owes its existence even to this religion; whose very ornaments remind one of the joys of a life beyond the grave; whose lofty vaults and arches are crowded with the forms of prophets, and martyrs, and beatified spirits, and seem

to resound with the choral hymns of angels and archangels. But peculiarly are its power and sublimity displayed in the monuments it rears over the tomb. The elevated form on which reposes the statue of the mailed knight, or the holy woman, composed into the stately rest of the grave, yet the hands folded over the breast, as if commending the spirit to God, who gave it; the canopy which overhangs it; the solemn vault that rises above; the gorgeous window, through which is poured a flood of golden light upon the abode of the dead; these are the characteristics of the architecture of Christianity, the sublime, the glorious Gothic."

"In respect to association, this writer remarks that, "although there may be no preference existing previously in the minds of the community for one style or another, yet it is well to cultivate a preference for the Gothic style, since it is a fact, which nothing can alter, that this is Christian architecture, and the classical and Egyptian belong equally to paganism. It is desirable that those who visit the graves of their friends should associate with the spot the monuments and decorations which their religion has consecrated for a thousand years."

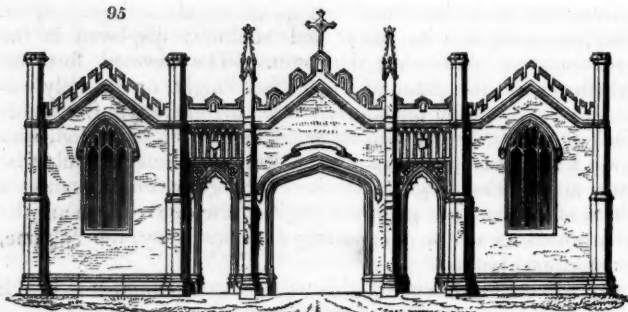
Most of the proprietary cemeteries recently established are of considerable extent; but, in carrying out the principles laid down above, this is not at all essential. Any piece of ground, three acres or upwards in size, is amply sufficient to afford room for the following subdivisions, which will be found in all cases necessary.

1. A portion allotted for single interments, where the right of ground is not conveyed. The graves, in such cases, are usually closed finally when a certain number of bodies have been interred.

2. An allotment for family graves, of the ordinary size (say 6 ft. by 3 ft.), where the right of ground is purchased, subject to certain regulations as to head-stones and monuments.

3. A space for family vaults. These are constructed of various sizes, but should not be less than 7 ft. by 4 ft. inside; the walls built with brick, and covered with large stones. The bodies, in this case, must, of course, be interred in lead coffins. A covered cloister or open colonnade is extremely desirable, affording a cool sheltered walk, with space for vaults below; the walls to be appropriated to tablets and monuments.

Cemeteries, embracing the above-mentioned arrangements, and tastefully laid out, will not only be found beautiful and valuable appendages to every town of moderate population, but offer a very advantageous investment for capital. This, even on a grave subject like the present, in this money-making and speculative generation, is not the least important part of the information. It has come within my own knowledge, that one



Front Entrance of St. Mary's Cemetery, Kirkdale.

of the first cemeteries established on the proprietary principle has for several years paid an annual dividend to its shareholders of from 20 to 25 per cent. If, therefore, three most important objects can be attained at once, the decent and respectful disposal which the mouldering relics of departed humanity require at our hands, the providing of a pleasing resort for meditative contemplation for the living, and the profitable employment of pecuniary means for the purpose, surely the time is not far distant when every large town will have at least one or two establishments of this kind in its environs.

One word in reference to the style of monuments. Notwithstanding the decided preference, for the reasons above stated, given to the Gothic style, as peculiarly suited to sepulchral architecture, we would by no means place the monuments under the same restriction: indeed, we would give the most latitudinarian scope in this respect. It is in these memorials that individual tastes, feelings, habits, and propensities are developed, and afford ample food for meditation to the most unimaginative mind. In this point of view, they are, indeed, "instructive records, whereof those marked with least incident are yet replete with interest for that human being who stands alone amongst the quiet graves, musing on the mystery of his own existence, and on the past and present state of those poor relics of mortality, which every where surround him, mouldering beneath his feet." (*Chapters on Churchyards.*) We would only make one stipulation, that they should not be cooped up within a fence of iron rails. To go into some of our public cemeteries, and look at each little plot of ground, 6 ft. by 3 ft., with its chevaux de frise of iron spikes frowning defiance on every beholder, it would almost appear as if every inhabitant of the narrow "house appointed for all living" were apprehensive of a siege, and viewed every spectator as an enemy. The inscriptions on monuments usually appeal to the finer feelings and tender sym-

pathies of the reader ; but this plan savours of distrust and suspicion, and at once tends to close every avenue to the heart, and to destroy 96 every thing like sympathy and kindliness of feeling. It is only allowable in such churchyards as are public thoroughfares, and exposed to the dilapidating freaks of idle schoolboys ; but in cemeteries such as are alluded to above, this *Noli me tangere* air is very offensive, and calls up associations of the most unromantic character, such as those of steel traps and spring guns, the bars of a prison, and ideas of a similar class.

But my readers will expect something in the way of illustration of the above remarks ; and I now proceed to offer something of the kind. I do not for one moment pretend to have realised the ideal excellence above attempted to be shadowed forth ; but, at all events, it will be a hint for something better, and on a more extended scale. The accompanying

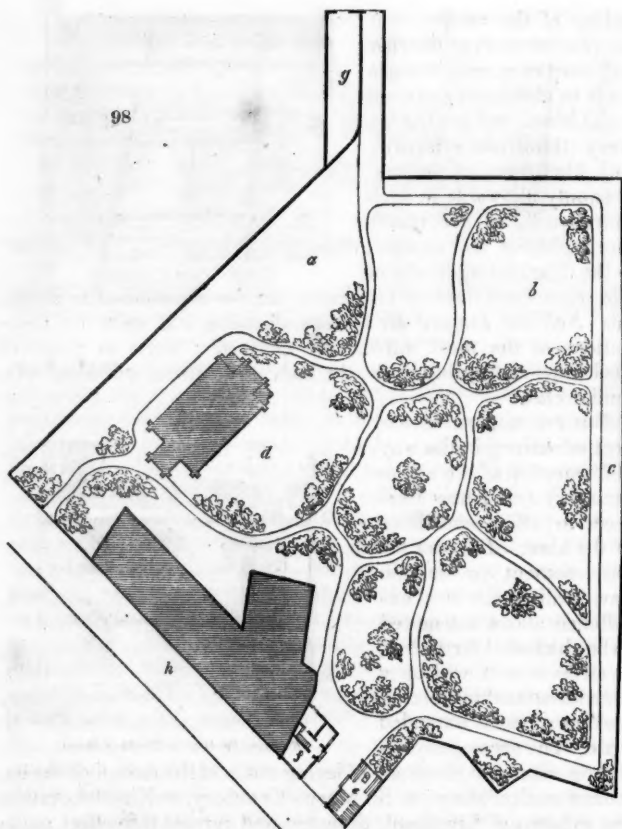


Entrance Front of the Chapel.



Entrance Front of the Dwelling-House.

figures represent the mode of laying out, and the design of the entrance and buildings, of St. Mary's Cemetery, in Kirkdale, one of the suburbs of Liverpool, designed and carried into effect under the superintendence of the writer. Fig. 98. represents the plan. The quantity of land is nearly four acres. The shape is extremely irregular, and in part surrounded by buildings ; but the mode of laying it out will be sufficiently obvious from the plan. The ground slopes from the entrance, and faces the west. The nature of the soil is a loose rock. *a* represents the portion appropriated to single interments ; *b*, the space for the family graves ; the space *c c*, along the wall, is allotted for vaults, part of which are proposed to be covered with a colonnade, or cloister ; *d* indicates St. Mary's Church, the erection of which first gave the idea of establishing the cemetery ; though, as the ground is not consecrated, the church is in no way connected with it. (Since the plan was made, the ground round the church has been separated from the cemetery, but it in no respect alters the general plan.) *e* is the chapel for performing



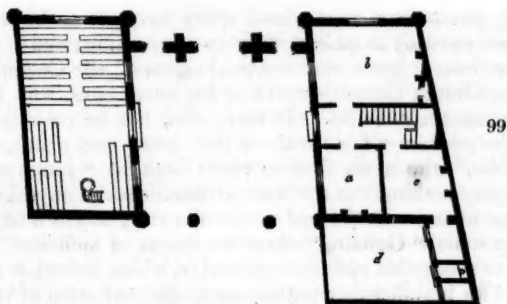
a, The portion appropriated to single interments.
c, The space for vaults. *d*, St. Mary's Church.
f, House for the officiating minister.
h, High road from Liverpool.

b, The space for family graves.
e, Chapel for performing the burial service.
g, Yard for working the tombstones.

the burial service; *f*, the house for the officiating minister (both of these are shown on a large scale in *fig. 99.*); *g*, the yard for working the tombstones, and the back entrance. *Fig. 95.* shows the front entrance, with the chapel on one side, and the dwelling-house on the other. In the centre, over the gateway, is the following inscription, carved in black letter, with a scroll:—

“ST. MARY'S CEMETERY.
 A. D. MDCCCXXXVI.
 MORS JANUA VITÆ.”

Fig. 96. is the entrance front of the chapel, laterally to the gateway. *Fig. 97.*, the corresponding front of the dwelling-house.



a, Study. b, Dining-room.
c, Kitchen, communicating through a back kitchen to the yard (d).

The entrance front is of stone, and the lateral fronts of brick, with stone jambs and facings. The shields, in various parts, are emblazoned with the heraldic bearings of the parties connected with the undertaking. The ceiling of the chapel has oak ribs with carved bosses at the intersections; and the ends of the seats are carved with *fleurs de lis*.

It is much to be hoped that the Gothic architecture, from its graceful flexibility as a style, and the exciting associations connected with it, will be frequently adopted for this purpose by our architects; and that our cemeteries will, ere long, take the rank to which they are well entitled, as not the least important or ornamental portion of our public edifices.

Before I conclude, I would just add, for fear of misconception, that none of the above remarks can be at all intended to apply to such places of interment as Westminster Abbey, St. Paul's, and other of our cathedral and collegiate churches, which are, indeed, magnificent places of sepulture, worthy of containing the ashes of England's best and bravest children, and which will call up feelings of glowing warmth and veneration,

— "While yet a nook is left
Where English minds and manners may be found."

The remarks are only intended to apply to the indiscriminate and wholesale system of pollution and barbarism, which cannot be too strongly reprobated, nor too soon remedied.

ART. IV. *Thoughts on the present System of Competitions.*

By EDER.

COMPETITIONS being a mode frequently adopted for procuring the best designs for public and other works, it may not be deemed unimportant, now that so much is going forward this way, to say a few words upon the system, by way of hint to those

young professional men whose spurs have yet to be won, but who are so ready to embark in every competition; and of instruction to those "grave and reverend signors," the Committees of Taste, Church Commissioners, *et hoc genus omne*, who have to decide on their claims. It may, also, not be entirely out of place to address a few words to that good easy gentleman the "Public," who is the first to vomit forth his "sound and fury signifying nothing" at the want of excellence in anything; and the last to arrive at the real merits of a case, unless it be pointed out by some "Goliath," whom he deems of sufficient importance to render his opinion respectable, when, indeed, it must be owned he is sufficiently positive as to the perfection of the plan, and clamorously desirous to have it carried into effect. Few, I think, who thoroughly and impartially examine the matter, will deny that a public competition is the mode preeminently adapted for procuring the best design, and that one which shall most effectually unite within itself excellence of arrangement with beauty of exterior; of which last alone the judges, however unskilled in professional matters they may be, are certainly capable of forming a tolerably competent opinion; though it must be confessed that we have no positive proof of this, as nothing can be more tasteless, even in outward appearance, than the selections often made from among numerous and very clever designs. But some experienced competitor will reply, "Do you not know that, in nineteen cases out of twenty, a competition is a mere job, and that a thousand circumstances operate respecting the choice of a design, before its own intrinsic excellence is even thought of?" This must be admitted, however incredible it may seem that private gain should be allowed to take such precedence of public weal. "But," again may ask one of the crowd, who has never been admitted behind the curtain in these things, "how do you know that such is the case?" To this I can only reply, that "facts are stubborn things." Innumerable instances might be adduced; in short, it would be uttering truisms to a professional man to name them: but the public at large is not quite so well informed in the matter. A certain public building, recently finished, at Islington, was gained at a competition, where it was expressly stipulated the designs were to be tinted in sepia only, by a set of designs which, in direct opposition to the instructions given by the committee, were beautifully coloured according to nature. Here was a manifest injustice done to the other competitors: for it is well known how much adventurous merit a design gains by artist-like finishings in colour, and that an effect is obtained by this means which does not belong to the edifice itself.

Designs are often chosen in such a state of incompleteness, that to make them out would be as difficult as to unriddle the

enigmas of the ancient Sphinx. Take, as an instance, the design for the Berkshire Hospital, mentioned by a correspondent of your Magazine for March, p. 151., which gained the second premium. According to the plan delivered in, this building could contain but forty-eight beds, although sixty were stipulated for; and this alone, in common fairness, should have operated against its choice: but it did not; neither did the circumstance of parts of it being coloured in neutral tint, when it was directed that the whole should be in sepia, nor those of its bath-room being only 3 ft. wide, and its principal staircase 4 ft. 3 in. only in breadth, operate against it. Added to this, will it be believed that there were no sections accompanying this design, and that thus there was nothing to show its capability of being executed, or to afford means by which an estimate of its expense might be made? This, indeed, the architect himself did not deign to attempt, though expressly directed to do so.

It was not many months since, that advertisements were put forth in the daily papers for a building connected with a railway, with directions where to apply for particulars, &c.; but, after about five weeks had elapsed, circulars were sent to the competing architects, to say that they need trouble themselves no further, as it had been resolved to give the work to Mr. Hardwick. Here was deliberate insult added to positive injury and loss. So, after the five weeks' labour and unavoidable expense of, perhaps, twenty architects, they were to be coolly told they might go about their business, and all this without any remuneration, or hope of remuneration, whatever. The writer of this was once engaged in a competition for a town hall; when, after a fortnight had elapsed after the designs had been sent in, all the designs, except his and one other, were returned to the unsuccessful candidates, as the committee were as yet uncertain which to choose of the two remaining ones. Three months elapsed, and the writer sent, requesting to know the result, but was again told the committee had not yet decided. Another month went by, and he again wrote; when, after some further time, his drawings were returned, torn and dirty, with a note three lines in length, and after five months' detention. The reason alleged in favour of the design of the successful candidate was its being much more ornamental; but the committee itself acknowledged it would cost nearly double the amount specified, and admitted that the second best would not have exceeded the sum stipulated. Thus the writer lost, for adhering to their own regulations; when, had he exceeded the given amount, and so put himself upon a par with his rival, and neglected their instructions, by making a more costly edifice, his chances of success would have been greater; whilst the successful candidate gained by disregarding their own orders.

How often, before a competition is decided, do we hear even the name of the person who is to have it ! Is all this equitable ? Can such a system be permitted to prevail ? Competitions are, above all things, calculated to bring forth latent talent, to teach young beginners confidence, to bring into play their incipient powers of conception, and to improve and mature their judgment by giving them an opportunity of designing larger buildings than in the common course of events they could expect, until of riper years. Had competitions taken place for Buckingham Palace or the National Gallery, would the present edifices have been raised, and would such burlesque travesties upon architecture have been allowed to become indurated masses of sad reality, to descend to posterity as monuments of the taste of the nineteenth century ? How justly did the poet speak, who said that many "mute inglorious Miltons" were hidden in the mist of obscurity, when opportunity might have shown forth their genius to mankind ! In architecture, competitions afford that opportunity ; and many architectural Miltons may yet be expected to arise when the system is improved, but not before. However it may be regretted, is it to be wondered at, that this noble art has drooped its head, when so many things combine against it ? When our Royal Academy scarcely admits its members within their walls ; when our universities and public schools are ignorant of it ; when no schools of design of any kind have ever been instituted, no public or private sympathy shown for it, and no means whatever taken to bestow on it a fostering hand ; can it be wondered at, not only that it does not live, as it deserves, in all its glory, but that it can barely be said to exist ? But, without thinking of all this, not only do pseudo-connoisseurs, litterati, dilettanti, and antiquarians complain of the degradation of the art, but every superficial thinker flings his flippant jest, or his pointless sarcasm, at the architecture of the present day, and calls it wit. Go ye to the land of the Cæsars, and there see how an Augustus promoted it, and how thoroughly a whole people were imbued with the spirit of the art ! Recall the times when Adrian delighted to assume to himself the *then* honoured name of architect, and personally to undertake all its onerous offices. Look around, and remember Pericles, who, when some political malecontents murmured at the expenses incurred by the erection of so many public buildings, offered himself to bear the expense, provided he had the honour of its being published that he had done so ; when the whole people, animated with one fervid feeling of injured pride, energetically refused, and their murmurs died away into silent admiration. Of what avail would it be to tell of this to the crowd who lately figured before the hustings in Covent Garden Market, or of the glories of the Parthenon, of temples, baths, and

stădia, of the Coliseum, of the magnificent Bridge of the Alcantara, of the Vatican, or of any thing else which did not bring in some 7 or 10 per cent for the outlay? But, alas! our people have as yet to be educated for all this. As Prince Talleyrand used to say, "The pear is not yet ripe;" but I trust that we are now at last approaching this "consummation," that we are, to use another of his happy illustrations, arrived at "*le commencement de la fin*."

When advertisements are put forth for a general competition, a certain period is always allowed to get up the drawings; but, in nine cases out of ten, this period is so inadequately small, that, when it is considered how much is to be done, in designing the elevations, arranging the plans, with all their relative conveniences, working out of the sections, and attending to all the numberless et ceteras belonging to them, it will be found that it is scarcely ever possible to finish them with that quiet care which is so necessary to give them their full effect, or to bestow on them the deep consideration which should attend the designing of a large edifice, within the required time; consequently, inaccuracies must necessarily occur, and other faults in detail, for which the architect is blamed, when the fault rests upon the brief period allowed. So notoriously is this the case, that in the majority of competitions the committee are themselves compelled to grant an extension of time, in consequence of the numerous representations of its inadequacy. A fortnight only is frequently granted, and even, in some cases, a week or ten days. Even the legislature, where all would have expected judgment, reflection, and knowledge of the subject, even the legislature betrays the same ignorance of the details of the art, and of the time necessary, and the deep consideration required in the production of a fine work of architecture. The space of time granted to the competitors for the new Houses of Parliament was *four months*. Shades of Phidias, Ictinus, and Callicrates arise, and blush with shame at such ignorant absurdity! Four months for an edifice, which, as was justly observed, by Mr. Britton, is many times larger than St. Paul's, and which required an extent, a vastness, and even grandeur of conception, in the internal arrangement, which to the former was unknown!

The next ordeal competitions have to pass through is the committee. Now, although we do not quarrel with every man because he has not the same knowledge of the subject as ourselves, yet here we must protest against the committee relying solely upon their own judgment of the case. How, let me ask, is it possible that a man, perhaps engaged in business of a totally opposite nature, can perfectly enter into the subject of an architect's plans; comprehend them in all their bearings; enter into the minutiae of their various parts; weigh the merits of their

different modes of arrangement, and the minute shades of difference which exist between them; examine all the sections, the heights, thicknesses, and bearings of the different walls; judge of the strength or propriety of the scientific combinations perceivable in the construction of a roof of large span, and then enter with the true feeling of an artist into the composition of the elevations? We say that, without practice, this is impossible. Not that we wish to have it all our own way, and first to design, and then to judge, our own works. By no means. It will be found that the opinions of enlightened amateurs and men of taste, by being divested of professional prejudices, will materially assist architects in their compositions; but what we protest against is, their pretending to be able to judge of *all* the practical arcana of plans, elevations, and sections, and patiently to go through the dry tiresome details of perhaps fifty designs, each design consisting of from six to ten drawings. A competition, even when divested of jobbing and other sinister influences, must ever be a lottery, from the incompetence generally of those selected to choose; as none but one accustomed to architectural composition, arrangements, and practice can properly appreciate a design, a drawing of which only is submitted, too often brilliantly coloured, in order to dazzle the eye, and so carry away the judgment. It is well known, even when a committee is composed of gentlemen of unblemished probity, that, generally, the design is selected for its exterior; the other drawings, from their numbers, and the irksomeness of detailed examinations, being rapidly passed over. Is this, I ask, encouragement to competitors; or is it likely to raise the art, or procure excellent designs? Here, again, the legislature is in the rear of public opinion: for a few isolated cases have occurred, where architects have been called on to assist in giving judgment in private competitions; but the "heaven-born Commissioners," as Mr. Wilkins pleasantly called those appointed to decide for the new Houses of Parliament, waded, *it is said*, through the ninety-seven designs, containing more than one thousand drawings, without requiring any one's opinion, to know whether a just arrangement of the relative conveniences, a nice balancing of the different supports, or a mutual harmony of the component parts of the elevation had been made. One of the principal commissioners, Sir Edward Cust, thus expresses himself in a letter to Sir Robert Peel: — "I may almost assert, that all the public buildings of the last half century have been behind the average architectural talent of their day; and this, as it appears to me, is manifestly because the employment has been consigned to professional men."

The architectural talent of any particular period is shown by its public buildings, affording, from their magnitude, greater

scope for the display of taste than private ones. Sir Edward observes, that "public buildings," which, of course, are the tests of architectural talent, "are behind the average talent of the last half century." This is a solecism I do not comprehend; for how can "public buildings" be behind the "average talent of the last half century," when they alone afford the means of judging of that "talent:" average, of course, meaning the medium of the whole, how can they be behind their own average? As to the utter absurdity of the alleged inferiority (which many, equally acquainted with the subject, will possibly deny) arising from professional men being employed, it is unworthy of contempt. One might as well assert, because a doctor's patient died, that, had a quack, an amateur, or any other non-professional been employed, the patient would have been alive and well.

A committee being formed entirely of non-professional men begets another serious embarrassment; for a design is sometimes chosen for the prettiness arising from a multiplicity of ornament, which, in the end, far exceeds the amount; and thus endless difficulties are superinduced. The Town Hall at Worcester, I am informed, was to have cost 18,000*l.*: 25,000*l.* have been expended, and application has been made for 7000*l.* more. The Town Hall at Birmingham, and many others, afford parallel cases in point. This evil, committees have much brought upon themselves, by naming an inferior sum to the amount intended. This is so notorious, that few architects deem themselves bound by the amount, and therefore give way to additional expense; well knowing, from constant experience, how untrue is the statement of the amount, and generally how utterly incompetent is the sum named to accomplish the desired object. The amount is often so inadequately small, that it would be impossible to execute the work in the plainest manner; and yet the particulars generally state, that the front is to be in a style of "simple elegance;" to be "faced with stone;" to possess a "handsome portico;" or to be "ornamental in its details." We shall see, when the Town Halls at Weymouth and Oxford are executed, how near their respective costs will be to their stipulated amounts of 2500*l.* and 6000*l.* If I be not much mistaken, these amounts will be a trifle exceeded. The architect often makes a design in accordance with the instructions put forth; the edifice costs half as much more as the sum named; the committee is astonished, the public dissatisfied; and the onus of the whole is then thrown on the unfortunate architect: but, had professional advice been taken in the first instance, a sufficient sum would be named, and instructions which *might be understood* would be given as to the more important apartments, and their uses. As they are

now managed, the instructions are rarely understood; and thus unavoidable errors are fallen into, at once annoying to the architect, and troublesome to those appointed to judge. Here let me whisper, *intermezzo*, a word to architects themselves when they deliver in their drawings; and that is, when the amount stated is insufficient, and your design exceeds it, do not bring down the amount to that named, but boldly state its insufficiency, and add about what you think really would be the sum required. If the design has real merit, small sacrifices would always be made, rather than lose a really good thing. Never let it be said, "This man began to build, and was not able to finish;" and let the younger members of the profession bear in mind the French proverb, "*Chacun est artisan de sa fortune*," and that nothing will estrange men more than reckless expenditure. It touches every man in his tenderest part — his pocket. Stating a lower sum than you know will be required, is a means of obtaining an end, unworthy the dignity of the profession, degrading to the professor, and derogatory to all parties. Whether the estimate for rebuilding the Houses of Parliament may prove one of these miscalculations, *nous verrons*.

As another proof of the incapacity of committees to judge without professional advice (even in those appointed by the legislature, where we might expect the utmost knowledge of the subject and competence of judgment), look to the designs for the Houses of Parliament. That Mr. Barry's elevation, even when divested of its artistical effect, was the best, no unprejudiced man can deny; but here their judgment ended; for, as I before observed, few are capable of judging rightly beyond the elevation who have been unaccustomed to the subject: for the plan, with the exception of one or two bold ideas, was below mediocrity. Now for the other three designs: six or eight could be pointed out better than the best, and double that number better than either of the other two; and such is the nearly universal feeling, not only of the profession, but of the public. And then the Commissioners' sapience was still further displayed, by their avowed incapacity to discover even one more design worthy of the fifth premium given by government.

The premiums offered to competitors are often so exceedingly small, that few men having any business at all will enter the lists; thus the older and more respectable professors avoid the trial, and the majority of the competitors is often composed of very young men, who have scarcely burst from the trammels of their pupilage, and therefore are not yet in possession of that comprehensiveness of conception which takes in at one view the distant parts, and unite, perhaps, incongruous elements, into one harmonious whole; and thus the body architectural often suffers for the faults of perhaps some of its least competent members.

What, in a few words, we would now recommend, is, first, to procure one or more architects of some standing in the profession to assist committees in their judgment; who would give all necessary particulars to the competitors, and particulars which might be understood, and not the ambiguous unintelligible enigmas which are too often now given; with some idea of what would be required in the edifice, and the destination of its most important parts; thus the competing architects would be better acquainted with the subject, and able to improve upon the instructions. Being also acquainted with the subject, the architects employed to assist the committees would know what period to allow for the getting up of the drawings, &c., and might offer any other recommendations which their experience pointed out as necessary.

Another subject to which I would call attention is that of remuneration. If the successful candidate, from youth, inexperience, or any other cause, be deemed unfit to undertake the execution of the work, let us entreat that the premium be adequate, and not the paltry 10% or 20% so frequently named. No premium, for an edifice costing 8000*l.* or 10,000*l.*, should ever be less than 100%; whilst the second premium might be one moiety of the same; and even a third premium would not, in most cases, be too much. Buildings much under that amount might be rather more in proportion, and those exceeding it rather less. Committees often stipulate, that, if the successful candidate executes the work, the premium shall be withheld; and thus they procure a vast number of designs from the competitors, who thus waste their labour, time, and ideas, without receiving one single shilling in return; and the successful architect has no more than his ordinary remuneration, to make up for the risk of his increased anxiety, lost time, and often great expense, had he been less fortunate. This is a system which cannot be too much deprecated, as being illiberal in the extreme.

After the designs are sent in, let the committee choose a certain number which they themselves most approve of, and then submit them to the professional men for their opinion, as to the excellence of the arrangement, the capability of its being executed for the amount stipulated, the *modus operandi* of the more scientific details, the beauty or propriety of the elevation, and, in short, all the circumstances necessary to form a correct judgment on the part of the committee of the various designs submitted to them. Then each architect of the designs approved of should be publicly examined, the committee being assisted by professional men, as in the case of railways at present; and thus jobbing and such sinister influences would be in great measure avoided, by the openness of the proceedings; and a fair opportunity would be given to each architect to ex-

plain the principles which governed him in his compositions, and to display the merits of his plans. The choice, after this examination should then rest with the commissioners. And here the professional advice should terminate, as nothing could be more galling to the feelings of an architect having to execute his design, than the superintendence of another, whose taste, as to ornamental, or prejudices as to scientific, details, might differ, and who could not possibly fully enter into the *animus* of another's feelings.

I have now, I believe, brought forward the principal difficulties that architects have to contend against in competitions, and suggested a few ideas, by which, or similar ones, they may be in some degree remedied. Objections have been raised by some to open competitions, as preventing the older members of the profession from entering the lists; and futile ones they are indeed. The objections of those modest elders will be found, I think, to arise more from alarm lest some younger member, some individual whose name has never been heard of, should carry away the prize, and thereby cast an apparent slur upon them for losing it; or, haply, they deem it beneath their dignity to be seen trying at every competition that turns up. But did such ideas as these occupy the minds of the competitors for the *façade* of St. Giovanni Laterano; or of the Roman architects when St. Peter's was about to be built, and Bramante bore away the noble prize? Or did they deter the ambitious aspirants for the dome of Santa Maria del Fiore, when Brunelleschi wreathed his brows with victory, and raised that stupendous monument of architectural skill and beauty into the air? Such thoughts did not for an instant clog their free spirits: they knew, indeed, that where there were many rivals but one could win; but that, whilst it rendered the triumph of success much greater, made the mortification of losing much the less; and they went away rejoicing, like the Spartan of old, "that there were better men than they." Such were indeed honourable feelings; alike honourable to the architects themselves, to the patrons of their art, and to their country at large. That such may soon be the feelings of this country, is the fervent prayer of an humble but devoted follower of this noble art, the parent of the others, the promoter of civilisation, and the glory of ancient days.

Brixton, June 20. 1837.

ART. V. *Experimental Essays on the Principles of Construction in Arches, Piers, Buttresses, &c.* By WILLIAM BLAND, JUN. Essay IX. *Relative to the Architecture of Churches and Cathedrals.*

KING's College Chapel, Cambridge. — This structure, which is the most magnificent of its kind, is the next to be taken into

consideration. With all its beauty, with all its superb sculpture and roof, and with all its sublimity, it is really a simple building, being in form a parallelogram, whose two side walls support a strong roof. Now, the objects of enquiry are, first, the dimensions and proportions of the stone roof; next, the side walls, and buttresses supporting the same.

The annexed plan (*fig. 100.*), which has been derived from the plans and drawings of Mr. Britton, to whom every lover of church and cathedral architecture is greatly indebted, gives a vertical section of the building, at right angles to the sides. The particulars of the dimensions are as follows:—

The span between the wall piers is 43 ft. The height of the wall to the springing is 64 ft. The thickness of the wall pier, at *x*, is 9 ft. The width of the pier is 4 ft. The thickness of the voussoirs and masonry of the arches, every thing included, varies from 4 in. to 6 in. between the ribs, and from 18 in. to 4 ft. at the other parts. The arch of the roof is of the elliptic form, and is supported by buttresses; consequently, the proportions and calculations, as respects *one sixth*, are here inapplicable. The buttresses being all similar and equal, any one of them will be sufficient for examination.

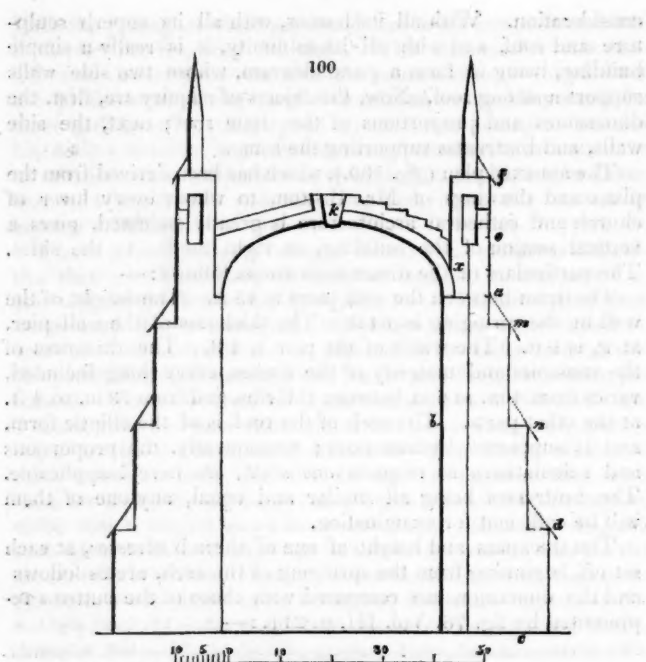
The thickness and height of one of these buttresses, at each set off, beginning from the springing of the arch, are as follows and the dimensions are compared with those of the buttress represented by *fig. 76. Vol. III. p. 211.*:—

Buttress of King's College.		Buttress shown by <i>fig. 76. Vol. III. p. 211.</i>	
Thickness.	Height.	Thickness.	Height.
9 ft.	4 ft.	— ft.	— ft.
13	20	4	3
17	20	6	6
21	20	8	12

The above shows that these two buttresses differ.

In order to try the result of experiment, a model was made, on the scale of half an inch to a foot, of the chapel buttress, omitting, however, the lower part, *cd* in the diagram, when the proportions became as follows:—

Thickness.	Height.	Remarks.
9 ft.	4 ft.	These proportions nearly correspond with those of <i>fig. 76. Vol. III. p. 211.</i> with the exception that the height ought to be 10 ft., instead of 4 ft., at the first set off.
13	20	
17	40	



When a lateral force was applied at *a*, it required the masonry to be raised 12 ft., or 6 in. in the model, before it caused the buttress to revolve on *b n*; since, with any weight less than this, the part of the buttress *a m* revolved only on the set off at *m*. On applying the lateral force at *x*, which is 10 ft. above *m*, the masonry was required to be raised as in *fig. 76*. Vol. III. p. 211., and, indeed, higher, before the lateral force caused the part of the buttress *x b* to revolve on *n*, or the whole buttress (*x c*) to revolve on the foundation (*c*). Upon adding the part *d c* to the buttress, thus completing the model of the chapel buttress, and applying the lateral force at *a*, it required more than twice the weight of the buttress, contained between *a* and *c*, before it would revolve on the base (*d*). The same precise result ensued with the experiment above referred to, in Vol. III. p. 211., upon adding the part *k f* to it.

These buttresses, throughout the building, are 23 ft. 6 in. apart, taken from centre to centre of each; and the masonry of the wall extends 4 ft. 3 in. on each side of every buttress to the window between, which is 15 ft. span. From this, it is evident that each buttress has to support 23 ft. 6 in. in length of the

stone roof, and only 4 ft. wide of it; or, one sixth is directly supported by the buttress, which is just 4 ft.; consequently, the remaining part (19 ft. 6 in.) acts as a positive weight, the thrust continuing the same, on the 4 ft. wide arch immediately resting on the buttress; and, therefore, the lighter this 19 ft. 6 in. of arch roof is constructed, provided it be of sufficient strength, the less is the quantity of materials required. To this the architects of the chapel paid due attention, since the thickness of the masonry and arch is only from 4 in. to 6 in., where the ribs do not intervene.

Upon erecting a model arch, on the scale of half an inch to a foot, and the 19 ft. 6 in. in length being assumed at 24 ft. average thickness, it was placed on that part of the buttress comprehended between the letters *a b*, and it balanced firmly. The arch had been placed, previously, on the pier as high as *x*; but the buttress gave way on *n*. The part of the structure *a e* equals the height of 12 ft.; and this height of masonry was found necessary, as before shown, to cause the buttress, by the lateral force, to revolve on the base (*b n* or *n*). The part *e f* also equals 12 ft., and may be considered all solid masonry, if the pinnacle above be allowed to make up for the hollow parts. On erecting these (*f e* and *e a*) upon *a*, from where the arch springs, the arch then balanced with two thirds of *f a* on the crown, equalling a half pound weight; and when the two side window arches were erected, abutting against the roof arch at the springing, and on the same pier (*a b*), with the masonry above completed, the roof arch balanced firmly with $2\frac{1}{2}$ lb. This weight of $2\frac{1}{2}$ lb. equals more than twice the weight of the pinnacle (*a g*), and, at 17 tons to half a pound, equals 85 tons, which is strength quite ample for the security of the roof.

On the buttress, at *a*, there is the masonry above, equalling *a f*; likewise the weight arising from the two side window arches with the incumbent masonry, which, together, fully equals the necessary part of the pinnacle above *f*, to cause the buttress, omitting the part *d c*, to revolve on the base line *c*, when a sufficient lateral force is applied at *a* or *x*.

It has been shown by the late experiments, that, in consequence of adding *d c* to the buttress, a greater weight than the pinnacle is absolutely requisite, before the buttress will revolve on the base (*c*); and, since all the weights above enumerated are less than twice the weight of the buttress contained between *a* and *c*, it will therefore still revolve on the base line *d*, when an overturning lateral force is applied at *a* or *x*. The extra strength caused by the addition of *d c* to all the buttresses is useful towards preserving the stability of the fabric against the shocks of tempests. The pinnacle at *g*, in the building, is raised to within a trifle of the height of the true proportions of the

buttress, as given in experiment fig. 76. Essay III. p. 211., when a lateral force is to be applied to the point x , which is 10 ft. above the set off. Now, the point x is 3 ft. above where a straight line may be drawn from k to y , just within the voussoirs and masonry.

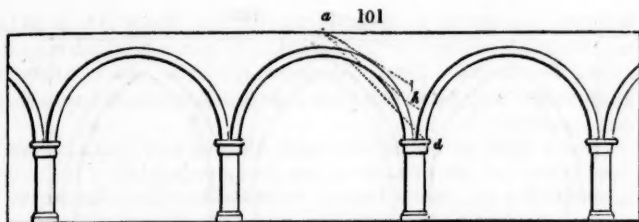
The weight of the timber roof, covered with lead, has not been taken into consideration; but the circumstance of its being tied together by strong beams, crossing from buttress to buttress, and having perpendicular beams placed under these towards each extremity, resting on corbels issuing from the wall, just above the lowest extrados of the roof arch, causes little or no outward pressure. The side walls, as has been before stated, are 5 ft. in thickness, and the buttresses are 4 ft. wide by 21 ft. through at the bottom. Now, this proportion gives the greatest strength with the least quantity of materials, as shown by figs. 69, 70, and 71. Vol. III. p. 207. The round towers at the four angles of this building perform the part of buttresses: they give variety, and add extreme beauty, to the chapel.

It appears, from the above enquiries, that the architect of this justly celebrated chapel, being perfectly aware of the law of buttresses, constructed a pier which would safely balance with an elliptic arch, and proper proportions of roof upon it. This being found, the lower parts of the buttress followed, of course, with the masonry above, and the pinnacle (ag), as in fig. 76. Vol. III. p. 211. The lowest part (dc) relieved the great height (cn), completed the pyramidal form, and added resistance to any lateral motion of the whole building on the foundation. The spaces left between the buttresses afforded room for convenient ante-chapels, libraries, &c.

On inspecting Mr. Britton's work, or the building itself, it will be seen that each buttress at a forms the centre of its respective proportions of the stone roof, from which the ribs extend after the manner of radii, and through these ribs other ribs pass concentrically. The forces of all these are reduced to two straight lines, one of which runs through the centre of the whole roof, and parallel with the line of buttresses, and the other at right angles to the first line, and extending across from pier to pier, or from buttress to buttress. The keystone, which is of great weight, is placed in the centre of every four buttresses, and is most essential, not only as a wedge, but, from its great weight, locking up, as it were, the lighter parts of the roof in perfect safety against being displaced by the fortuitous pressure of any person's foot.

Canterbury Cathedral.—Fig. 101. represents three arches, with their pillars, being part of the under croft of this cathedral. The particulars of the dimensions are as follows:—

The span between the pillars is 13 ft. 5 in. The height of th



pillars is 6 ft. 1 in. The height of the shaft is 4 ft. 6 in. The diameter of the pillars is 1 ft. 3 in. The arches are semicircular.

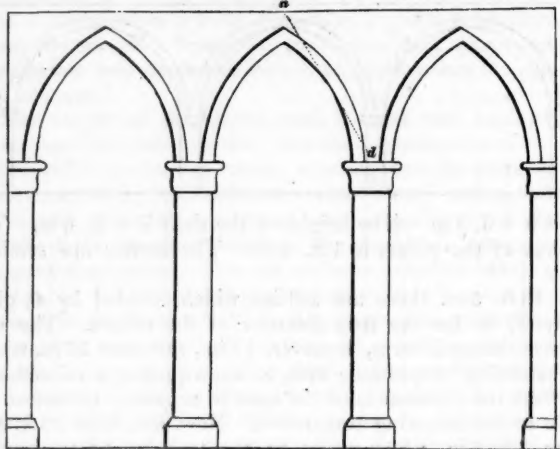
In 13 ft. 5 in. there are 161 in., which, divided by 6, gives nearly 27 in. for the true diameter of the pillars. The diameter of these pillars is, however, 15 in., therefore 12 in. within the balancing proportion; and, in consequence, a reduction of 6 ft. from the dimensions of the span is necessary to restore the height to the balancing proportion. Now, 6 ft. from 13 ft. 5 in. leaves 7 ft. 5 in., which would be the true height to support equilateral Gothic arches: but the present are Roman arches, and, therefore, they require each pillar to be reduced one fourth part lower, as shown by the experiments relative to figs. 147. and 148., &c., Vol. III. p. 409.; and this fourth part would lower the height to 5 ft. 7 in. The pillars are, however, 6 ft. 1 in., therefore they exceed the true balancing height by 6 in.

It has been before shown, when treating of the under croft of Rochester Cathedral, that pillars supporting four arches, two of which are at right angles to the other two, will carry twice the weight that two other arches can support. The excess, then, of 6 in. in the height of each pillar, may be considered as nothing. The masonry through the arches to the surface of the pavement above is about 2 ft. in thickness. In these semicircular arches the dotted straight line *a d* falls quite without the intrados; but the dotted line *a h*, to the point *h*, falls quite within the solid masonry; and *h* is the point of the greatest lateral resistance of the semicircular arch, as shown by the third experiment in Essay I. (Vol. III. p. 57.)

North Aile of Canterbury Cathedral.—Fig. 102. represents three arches and piers of this part of the building. The particulars of the dimensions are as follows:—

The span between the pillars is 11 ft. 4 in. The height of the pillars is 22 ft. 8 in. The height of the shafts is 18 ft. The diameter of the pillars is 2 ft. 10 in. The thickness of the masonry, from the intrados to the top, is 3 ft.

The span, divided by 6, gives $22\frac{1}{3}$ in. for the true diameter of a pillar, whose height equals 11 ft. 4 in. In the case before us, the height of the pillars is double that of the span, and their



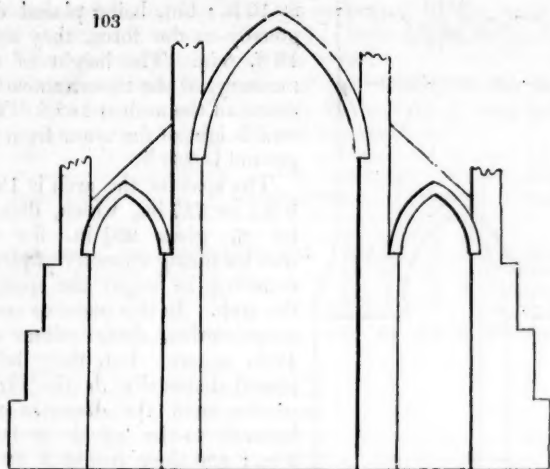
diameter exceeds the true one by 12 in.: this will allow only of the addition of 6 ft., thus making the height 17 ft. 4 in.: the height of the pillar, however, exceeds this by 5 ft. 4 in. Now, according to the law relative to pillars supporting arches, it will be seen, on turning to the experiments relative to figs. 136. and 137. Vol. III. p. 355., that, in the case of fig. 136., having a 4-in. base, and taken 9 in. high, and, in the case of fig. 137., having a 6-in. base, and 18 in. high, they both balance under very nearly the same weight on the crown of the two arches.

Here, then, is an exact correspondence with the dimensions of the pillars under consideration; for their diameter is just 34 in., which is one sixth and one twelfth (being one fourth) of the span, or one and a half diameter (of the true proportions); and the height of the pillar double of the span, or, double of the balancing height of one diameter of the true proportions. From what has been already observed, it may be correctly concluded, that these pillars and their arches possess equal stability with those pillars and arches whose height equals the span, and have their diameter just one sixth of the same.

The dotted straight line *a d* falls on the centre of the pillar at the point *d*.

Of the Nave of Canterbury Cathedral. — Fig. 103. represents this part of the building. The particulars of the dimensions are as follow: —

The span between the pillars is 28 ft. 2 in. The height of the pillars is about 56 ft. The diameter of the pillars is 5 ft.; but they are square, and placed diagonally against the outward force of the arched roof, and, in consequence, the diagonal line



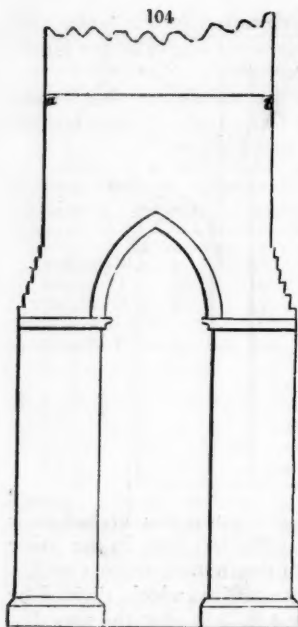
is greater, being 7 ft. These pillars support two arched roofs in one direction, and arches from pillar to pillar, in the other direction, which is at right angles to the first.

In the span of 28 ft. 2 in., there are 338 in., which, divided by 6, gives 56 in., and a little over, or 4 ft. 8 in., for the true diameter: but the diameter is 5 ft., therefore 4 in. more than the true one. Now, the height of the pillars is 56 ft., which is just twice the span; and the true diameter is, in consequence, one twelfth, instead of one sixth.

It has been stated that the pillars are placed in the centre of the meeting of four cross arches; therefore, as shown in several preceding cases, they stand firm. They, however, possess other advantages, with respect to their stability, by being square, and placed with their diagonal line against the outward thrust of the arches; in consequence of which their stability is increased equal to one fourth of their height. (See Rochester Cathedral.) Again, the diameter of these pillars being 4 in. greater than the true one, has the effect of shortening each of them 2 ft. Both these circumstances, together with the arches crossing each other at right angles, are sufficient, as time has already shown, to preserve the stability of this splendid and grove-like structure.

Of Bell Harry Tower, in Canterbury Cathedral.—Fig. 104. represents a part of the tower, the particulars of the dimensions of which are as follows:—

The span between the pillars is 19 ft. 9 in. The height of the pillars is 58 ft. The diameter of the pillars, which are square,



is 12 ft.; but, being placed diagonally to the force, they equal 16 ft. 6 in. The height of the masonry, or the tower, above the crown of the arch is 162 ft. The total height of the tower from the ground is 237 ft.

The span of the arch is 19 ft. 9 in., or 237 in., which, divided by 6, gives $39\frac{1}{2}$ in. for the true balancing diameter of pillars equalling in height the span of the arch. In this instance under consideration, these pillars are 12 ft. square; but, their being placed diagonally to the thrust of the arch, the diameter may be said to be equal to 16 ft. 6 in.; and their height is 58 ft., which is very nearly three times the span. These dimensions being beyond the scale, or proportion, of one sixth, the stability of the tower must be estimated in another way.

Now, in the experiment shown by fig. 153. Vol. III. p. 413., the pillar employed is 6 in. square, with the span of the incumbent arch $11\frac{1}{2}$ in.: but let us say 12 in. In the first place, then, as 6 ft. (diameter) is to 12 ft. (span), so is 12 ft. (diameter) to 24 ft. (span): again, as 6 ft. (diameter) is to 10 ft. (span), so is 12 ft. (diameter) to 20 ft. (span).

In the first of these proportions, the span of the arch is given at 24 ft., which is too much by 4 ft.; and in the second, the span is 20 ft., which is nearly enough; but, then, the dimensions of 10 being substituted for $11\frac{1}{2}$ or 12, is too small: the truth, it will be admitted, lies between the two.

In the experiment relative to fig. 153. Vol. III. p. 413., the balancing height is shown to be 16 times 6, and if taken at 12 for the span, equals 8 times 12. The pillars of this tower are in height 58 ft., which is not quite three times the span: they are, therefore, far within the balancing proportion. Again, as they are placed diagonally, their stability is increased a quarter part, as shown by Rochester tower; consequently, the balancing height of these pillars to this span of arch may be considered as 10 times the span: but they are not one third part of this, and, therefore, their stability is undoubted. This tower, like that of Rochester, is situated in the centre of the

cathedral, and is, in like manner, supported by the walls and arches forming the cross, which act at right angles to the forces of the four arches which carry the tower.

Having now given the nature of the stability of the towers of both Rochester and Canterbury Cathedrals, it may not be amiss, perhaps, to compare the two together : —

Rochester Tower.		Canterbury Tower.		Difference.		In favour of
ft.	in.	ft.	in.	ft.	in.	
Span of the arch	26 0	Span of the arch	19 9	6 3		Canterbury
Height of the pillars	32 0	Ditto	58 0	26 0		Rochester
Diameter of ditto	5 10	Ditto	12 0	6 2		Canterbury
Height of the tower above the arch	83 0	Ditto	162 0	79 0		Rochester
The squares of the bases of the four pillars of the tower equal at 6 ft. square each, 144 ft. square as the foundation base.		The squares of the bases of the four pillars of the tower equal at 12 ft. square each, 576 ft. square as the foundation base.		432 0		Canterbury

Now, to exhibit the stability of these towers more clearly, the proportions of each are arranged as follows : —

Particulars.	Rochester.		Canterbury.		In favour of	
					Rochester.	Canterbury.
The span we will call equal, or, as	1	is to	1		0	0
Height of pillars to balance, is as $\frac{3}{4}$ is to $\frac{3}{2}$, or as	1	—	2		0	1
Diameter of pillars is as	1	—	2		0	1
Height of tower is as	1	—	2		1	0
Foundation base is as	1	—	4		0	3
					1	5

Or, correctly, the stability of Rochester tower is to that of Canterbury as 1 is to 2; and, as respects the pressure of each upon the foundations, with the double height of the tower of Canterbury, it is also as 1 is to 2. Therefore, Canterbury tower has twice the stability of that of Rochester tower, and has, likewise, twice the advantage in favour of foundation base.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Report on the last Excavations in the ancient Theatre of Catania.* Made by SEBASTIAN ITTAR, Architect of the Commune, and Honorary Member of the Royal Institute of British Architects.

(Read at an Ordinary Meeting, July 24. 1837.)

HAVING caused some excavations to be made to a sufficient depth, we at length reached the pavement of the platea, or pit, and found that it was divided into compartments of marble, granite, and rosso antico. We also discovered in what manner the cunei of the seats, and their intermediate stairs, terminated at the orchestra. Under the pavement of the pit, we perceived various water drains, in different directions. Several fragments of sculptured marbles were also turned up, and portions of ornaments; the most interesting of which are, a very fine torso of a faun, and the upper part of a dolphin. From these fragments from the drains above alluded to, which received water, and from another piece of marble, found above fifty years since, on which was sculptured another dolphin, I have discovered that there were fountains round the platea at the ends of the cunei. There was subsequently made another excavation under the lowest corridor, where we found a substructure of large masses of calcareous tufo, without mortar, similar to the construction of the seat, and of the Greek emissary, which remains. This circumstance, together with the discovery of the said pavement, made me perceive that their lines did not correspond with the scena, and with the lateral passages of the pit. I thence concluded that the theatre had been rebuilt, on a plan varying from the position of the original structure. These discoveries confirmed the impression which I had always entertained, that the theatre now existing is a Roman work, erected upon the ancient Greek theatre; and it is proved by the embellishments of the corridors and vomitoria, which are so contrary to the simplicity of the Greeks.

Another fine discovery has also resulted from the excavations, and that is, the use of water in the ancient theatres. That of Taormina, to which I have also paid particular attention, has afforded me still greater proofs on this head. Besides the pleasure and use to be derived from this circumstance, as proved by the fountains of the theatre of Catania, and for cleansing the entire theatre, it served to inundate the platea, or pit, to the height of about four paleas, so as to represent the sea, on which were introduced boats, and every other circumstance calculated to give effect to marine pieces. This conclusion I have come to from various aqueducts, which led the water into it, and from the emissaries which discharged it from the platea, as also from the places for preparing the entrance and departure of the boats, and other machines, adapted to such representations.

ART. II. General Notice.

A COLLECTION of all the different Kinds of Stone found in the United Kingdom, well suited to the purposes of building, is being made by the Commissioners of Public Works at Whitehall, where all architects employed in the erection of public works will have an opportunity of examining the specimens and selecting such materials as may be best suited, from facility of working, resistance of corrosion, and decay from exposure to weather, and other qualities requisite for the strength and durability of the said works. It is much to be lamented, that in several of the public edifices erected of late years, great defects, arising from the corrosion and crumbling of the stone with which they were built, are already visible; which, in consequence of the above advantageous opportunity, are not likely to occur in future. — M. C.